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The Journal of the Fire Protection Profession Since 1877

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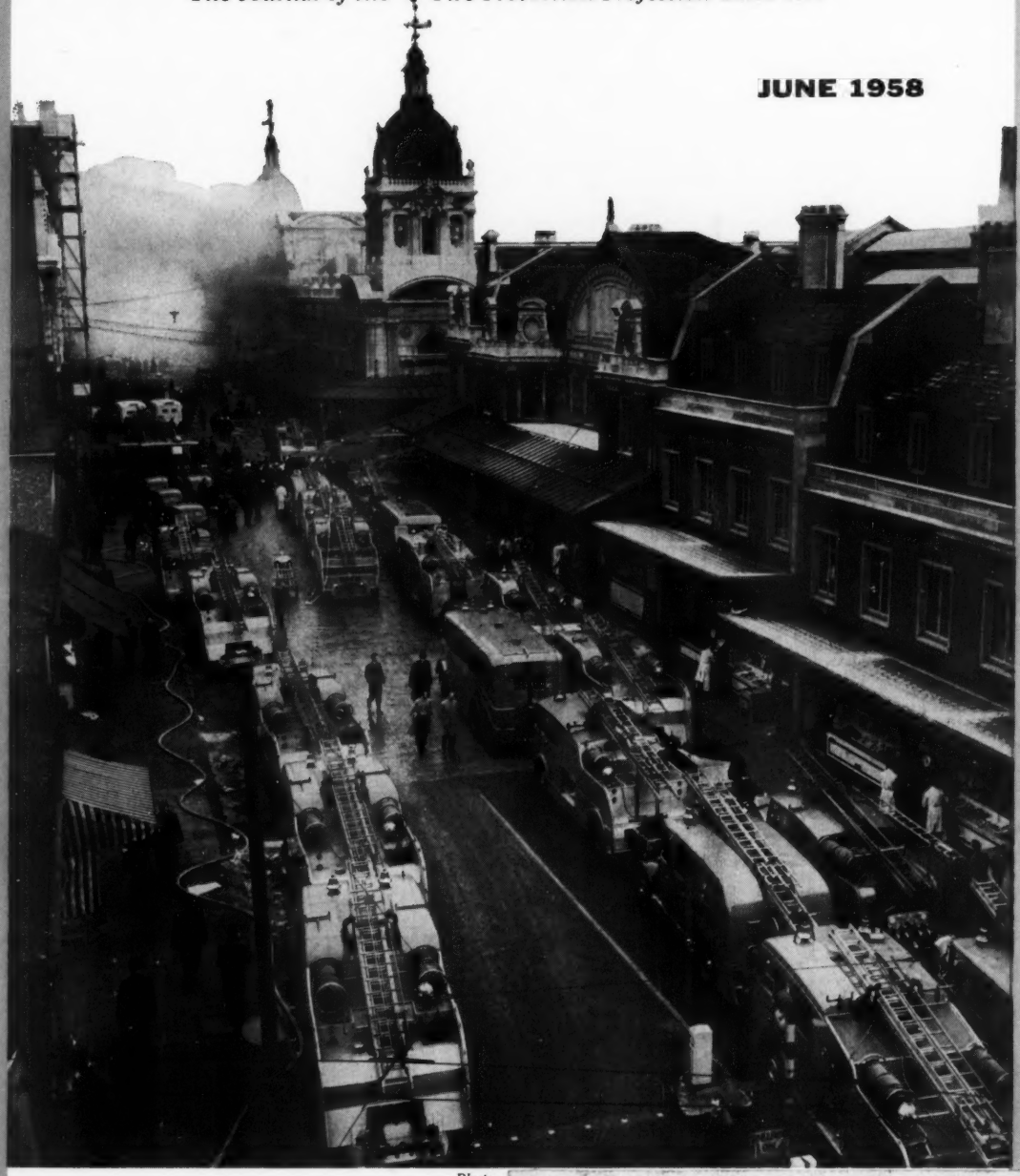

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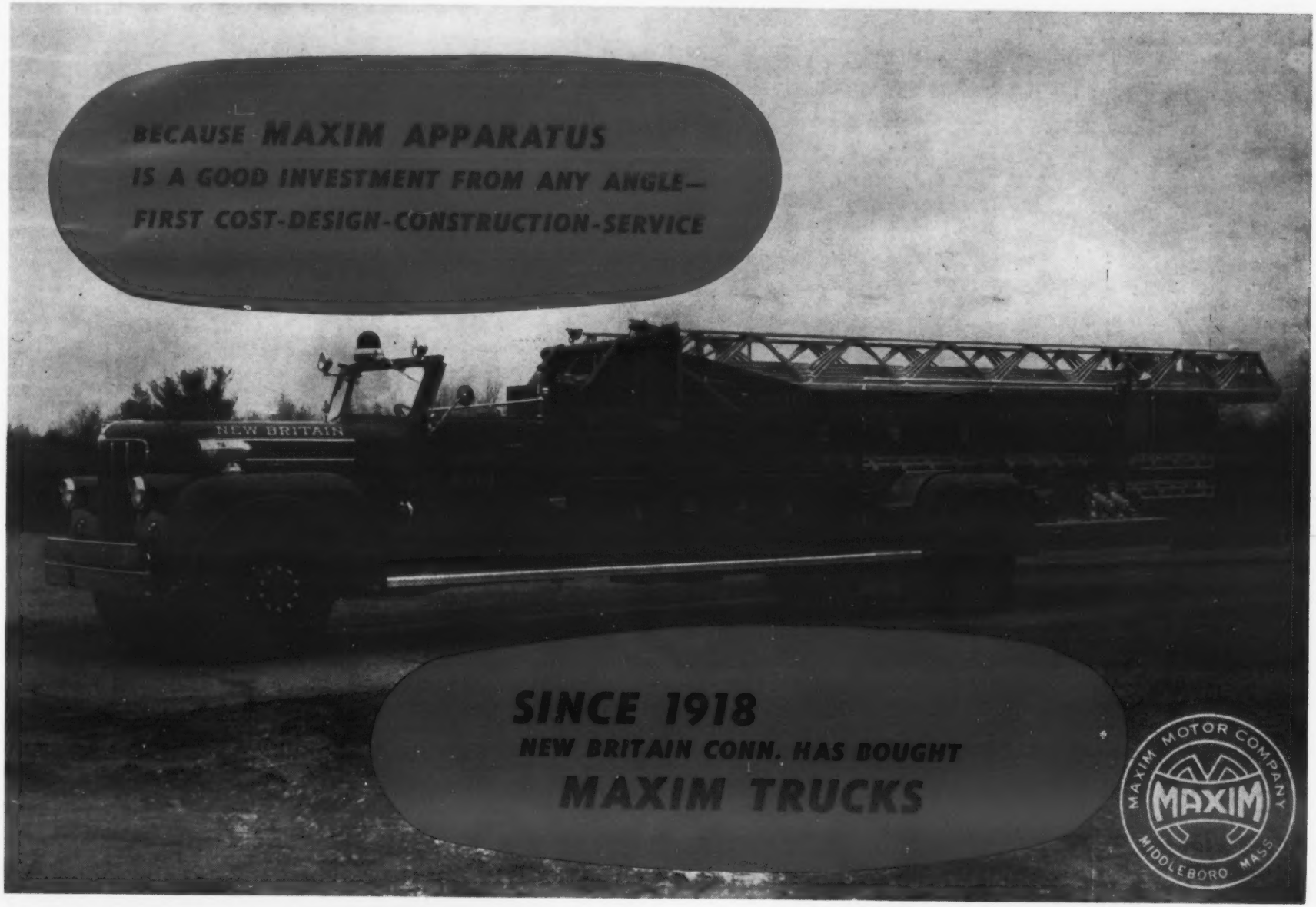
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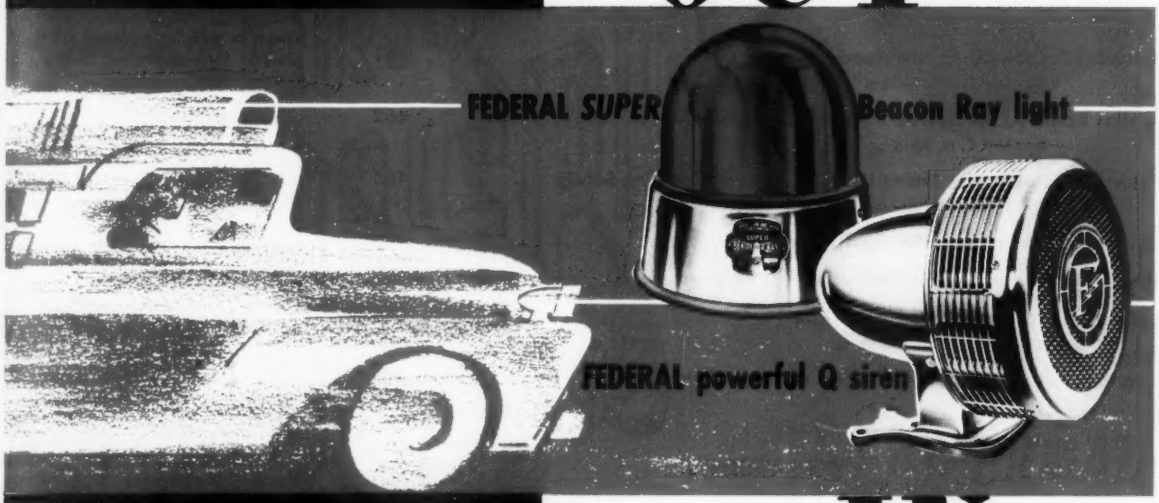

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FIRE ENGINEERING

VOL. 111 JUNE, 1958 NO. 6

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How Do YOU Use These Features?

Sometimes we wonder how our readers use the many special monthly departments contained in each issue of FIRE ENGINEERING—the Round Table, in which fire chiefs express themselves on pertinent topics; Short Cuts and Gadgets, in which readers tell how they do it; What's Burning, which provides vital statistics for the budget makers; the dates of fire schools and colleges, and conferences, for those who seek learning and good fellowship; and Questions and Answers, in which perplexed fire fighters put their problems to the editors, and get a reply.

These features may be tucked away toward the rear of each issue but they pack a wallet-full of useful knowledge, if you care to use it. As one chief said, "they're the 'bread-and-butter' of FIRE ENGINEERING!"

We know that other readers study them religiously and regularly—and profit accordingly. They tell us so. (Just the other evening we saw a guest speaker at a fire chiefs' dinner surreptiously sneak one of his jokes from a page of "False Alarms" which he had hidden in his pocket. That's another department that is appreciated!)

As you read and reflect on these features, remember FIRE ENGINEERING is the only "Journal of the Fire Service" that brings you so much helpful, timely information. "These alone are well worth the cost of my subscription," is the way one consistent subscriber puts it.

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We have a few protected territorial appointments which are available and will review your qualifications on a confidential basis.

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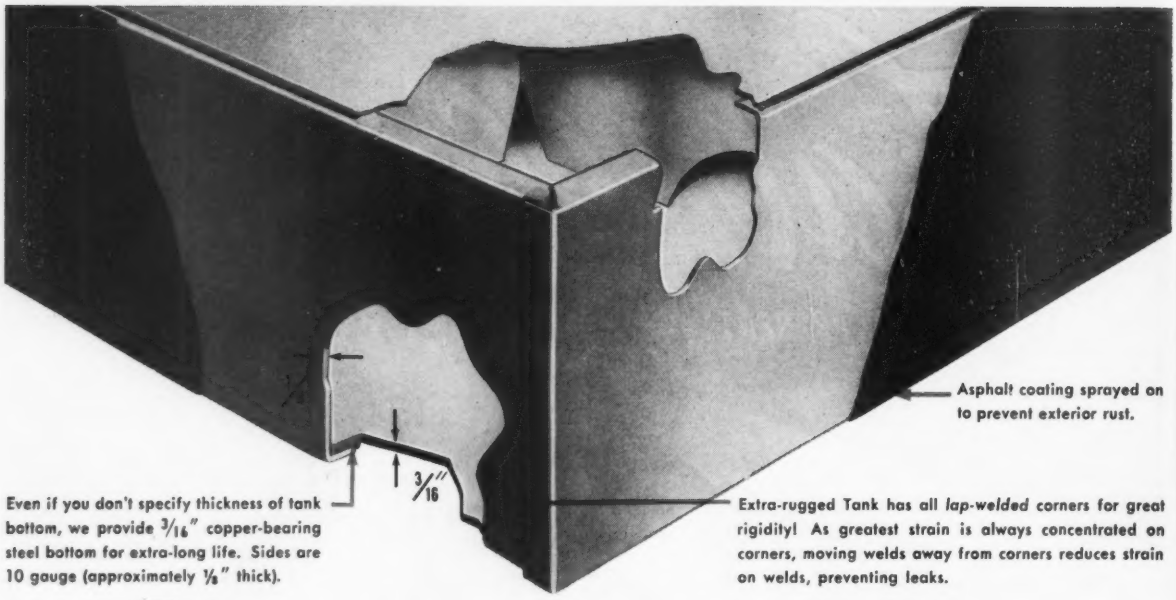


Asphalt coating sprayed on to prevent exterior rust.

Even if you don't specify thickness of tank bottom, we provide 3/16" copper-bearing steel bottom for extra-long life. Sides are 10 gauge (approximately 1/8" thick).

Extra-rugged Tank has all *lap-welded* corners for great rigidity! As greatest strain is always concentrated on corners, moving welds away from corners reduces strain on welds, preventing leaks.

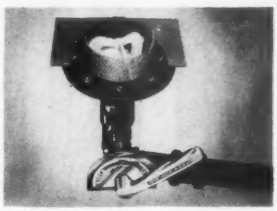
You get *more* superior features on American Fire Trucks even though you don't actually specify them...

You can order American Fire Apparatus with confidence that *our* rigid standards of quality *carry far beyond* your written specifications.

For example, corners and seams on all American booster tanks are *lap-welded* — not corner welded. This greatly increases rigidity — resists twisting strain — prevents troublesome leaks. *And whether you think to specify or not, all* tank bottoms are 3/16" copper-bearing steel for extra years of trouble-free life. Remember — 3/16" is *one-and-one-half times thicker* than the 10 gauge bottoms usually furnished.

Other standard features include: Multiple drains on pump, all connected to a single, central valve — so a hurried fireman *can't* "forget" to open or close one of several drains.

These and other engineering extras that really count are always provided on American Fire Apparatus at no extra cost — even though *not* mentioned in your specifications! Make sure you get these superior features!



Tank Outlet Sump has large bolted flange — *eliminates* need for costly removable top and resulting gasket problems, or sloping bottom with reduced capacity. Anti-swirl baffles keep air out, prevent loss of prime, and insure complete tank drainage.

Contact your nearest American representative for full details.

Choose either midship or front-mounted pump.

Patented Rear Tank Filler is also Pressure Relief Valve when filling from hydrant. Opens for filling with buckets. Strainer catches debris.

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B.F.Goodrich

There's always room for more when you rack B.F.Goodrich hose

Hundreds of extra feet of fire hose can be racked on this truck. That's because it's B.F.Goodrich Flexseal, a hose that's 23% lighter, 50% stronger, much more flexible than ordinary hose. Up to a third more of this hose can be loaded on a standard truck bed.

In Flexseal, the "filler cords" which go around the hose and carry the load under pressure, are made with Dacron chemically-produced fiber. These cords are thinner, yet stronger, than cords used in ordinary hose. As a result, this improved B.F.Goodrich hose racks naturally on the truck bed, doesn't kink or twist.

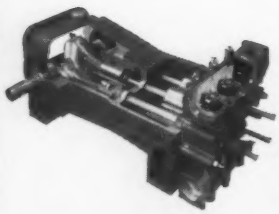
But there's another reason why the Wilson, North Carolina, Fire Department (pictured above) likes B.F. Goodrich Flexseal. This hose is protected by the exclusive B.F.Goodrich Superseal treatment that gives it 10 times more resistance to mildew attack and rotting.

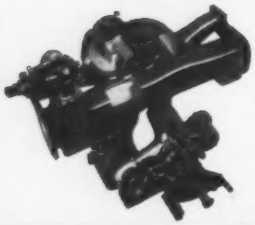
Unlike ordinary treatments that just coat the surface of the hose, the Superseal solution penetrates every cord in both the inner and outer jacket. This special chemical treatment also protects against moisture absorption and freezing, increases the hose's resistance to fire.

And most important, the B.F.Goodrich Superseal treatment that brings you extra safety and longer hose life, costs no more than ordinary treatments. Your B.F.Goodrich fire hose distributor can give you more information, or write *B.F.Goodrich Industrial Products Co., Dept. M-350, Akron 18, Ohio.*

B.F.Goodrich fire hose

greater versatility





1 *HPV — BOTH HIGH-PRESSURE FOG AND VOLUME PUMPS — Operated separately or simultaneously, these two John Bean pumps are the heart of the HPV's dual fire-fighting systems. One is the original John Bean high-pressure pump, famous the world over for its rugged construction and dependable performance. For true high-pressure fog fire-fighting, the pump operates at 850 psi delivering 60 GPM through two hose lines. The other is John Bean's Class A centrifugal volume pump (N.B.F.U. tested), available in capacities of 500, 600, or 750 GPM.

2 IN-MOTION PUMPING — John Bean's in-motion pumping makes the HPV doubly effective in fighting brush, grass, and forest fires. High-pressure pump has its own power take-off coupled to the engine so that fog lines can be operated while truck is in motion. Control for engaging pump is located conveniently inside cab.

instant action always

3 DUAL BATTERY SYSTEM (OPTIONAL EQUIPMENT)

Assure instant starting with a dual battery system. Truck battery furnished on all HPV Fire fighters, extra battery is optional.

4 PUMP PRIMING — No time is lost in getting the John Bean volume pump into action. Gear shifting from "road" to "primer" has been eliminated. Primer control automatically opens and closes pump valve. The priming pump is of the positive displacement type and is used for *priming only*.

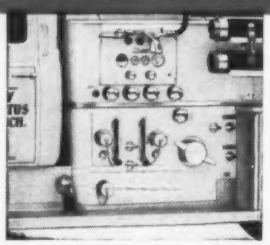
21 REASONS WHY

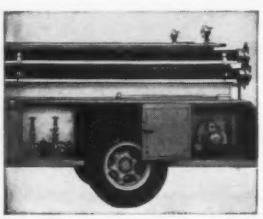
operating convenience

9 CENTRALIZED CONTROL PANEL — All gauges, valves, and controls are centralized on a single control panel for convenient operation. Panel is illuminated for quick, easy reading at night.

10 POWER REWIND HOSE REELS (OPTIONAL EQUIPMENT) — For faster, easier hose pickups, both high pressure hose reels may be equipped with optional powered rewind mechanisms. Hose reels with hand cranks are standard equipment.

11 AMPLE STORAGE SPACE — Four large-size, fully lighted compartments are built in to provide a total of more than 45 cu. ft. of storage space. One is tailored for slide-mounted generator equipment, another for portable water pump. Additional compartments offer ample storage for oxygen masks, nozzles, adapters, first aid, and other accessories. A small tool compartment is located conveniently above the rear platform.





12 INSIDE PUMP SHIFT — You save critical time and steps when arriving at a fire because John Bean's pump shift is located conveniently inside the cab.

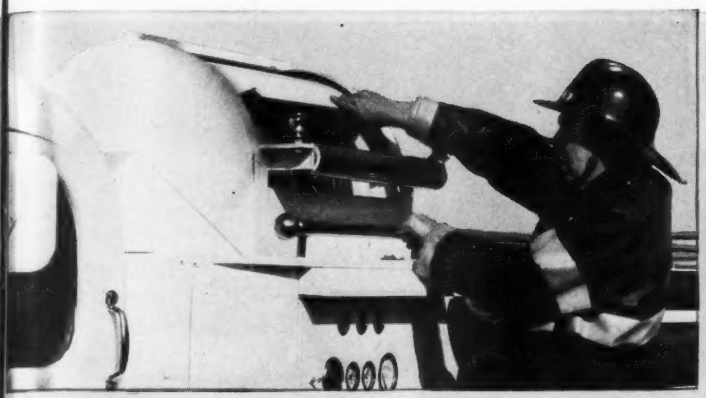
personnel safety

18 FULL-LENGTH GRAB RAILS — Chrome rails at convenient height extend full length of hose body and across rear, permitting firemen to don equipment safely while riding.

19 NON-SKID RUNNING BOARDS — Full-length side running boards are manufactured from approved non-skid treadplate, are securely mounted to the chassis frame.

20 EXTRA-WIDE REAR PLATFORM — Safety and comfort for riding firemen is assured by John Bean's extra-wide rear platform, constructed of approved non-skid treadplate.

21 FACTORY TRAINING by experienced fire fighters at John Bean is a part of the regular service that goes with every John Bean truck. Complete course teaches your personnel how equipment is best used and properly maintained.



5 WINTERIZED REEL COMPARTMENTS — To assure dependability in freezing weather, engine heat is channelled into enclosed reel compartments where it is retained by sliding metal covers. Engine heat is also used to warm pumps, valves, gauges, and controls.

rugged construction

6 BALL-TYPE DISCHARGE GATES — Rugged, quick-acting ball-type gates will not leak under pressure or suction, turn easily at all operating pressures.

7 HEAVY, RUST-PROOFED TANK — 500-gallon, 10-gauge steel water tank is fully treated against rust to assure long life. Large, removable tank covers permit easy cleaning and inspection.

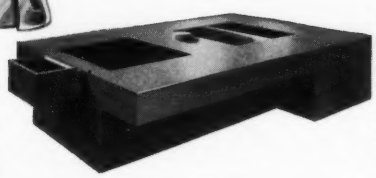
8 HIGH-STRENGTH PANELLING — All body panelling and compartments are made from special 12-gauge, stretcher level, body steel, completely reinforced with U-formed top for added strength and rigidity.

John BEAN HPV* FIREFIGHTERS

meet your fire-fighting needs like no other equipment can!

greater capacity

13 THREE HIGH-PRESSURE GUNS — Furnished with each HPV Firefighter are three patented John Bean high-pressure fire guns (third gun is spare). This famous gun features instant on-off trigger action with face-protecting spray for close fire approach. Rotating barrel permits quick selection of complete range of fog patterns for all types of fire.

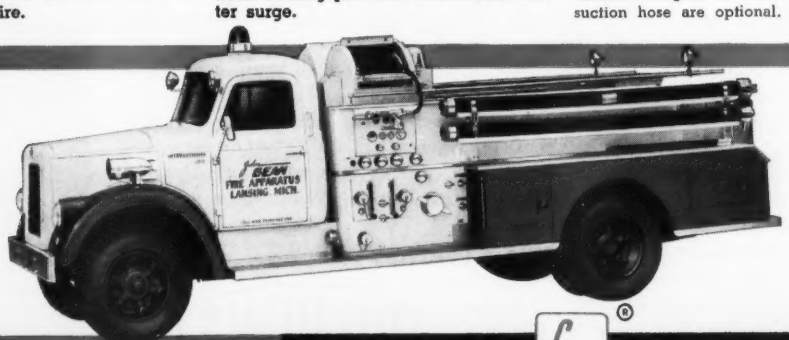


14 500-GALLON TANK — Big 500-gallon tank supplies water for John Bean high-pressure fog lines. Fire-extinguishing value of water discharged as high-pressure fog is increased by a ten-to-one ratio — makes the 500 gallons go ten times further. Six-compartment baffling prevents undesirable water surge.

15 SPACIOUS HOSE BED — Smooth, level hose bed is properly ventilated . . . provides ample space for 1200 ft. of 2½-inch and 400 ft. of 1½-inch double-jacketed fire hose.

16 400 FT. OF HIGH-PRESSURE HOSE — Standard equipment with each HPV Firefighter includes two 200-foot reels of special high-pressure (5000 psi discharge) hose.

17 20 FT. OF SUCTION HOSE — Other standard equipment includes two 10-foot lengths of 4½ inch hard suction hose, complete with hydrant adapters and suction screens. Lengths of 2½ inch hard suction hose are optional.



*High Pressure Fog and Volume Pumpers

For complete details on John Bean Firefighters, write today for catalog.

JOHN fmc BEAN

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A Division of Food Machinery and Chemical Corp.

Report from Detroit . . .

"We get into action faster because of the easier handling of hose made with 'DACRON'"

REG. U. S. PAT. OFF.

"Hose made with Du Pont 'Dacron'* polyester fiber has lightness and flexibility that get it into action faster," says Chief Edward J. Blohm, head of Detroit, Michigan, Fire Department. "It dries faster, too—can be put back into service more quickly."

Forward-looking fire departments throughout the country join Chief Blohm in endorsing fire hose properly made with "Dacron". They like its extra strength, which means more dependable hose for the higher pressures used in today's modern fire-fighting techniques. Hose made with "Dacron" racks more compactly, too . . . an extra 500 feet of hose goes into a standard truck bed.

Du Pont makes "Dacron" yarn and supplies it to hose manufacturers. The combination of the unusual properties of "Dacron" plus fire-hose manufacturer's skill has resulted in a superior type of fire hose. Hose made with Du Pont "Dacron" is produced by all leading fire-hose manufacturers. The next time *you* buy hose, be sure it's made with "Dacron". E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Department, N-5518, Wilmington 98, Del.

**"Dacron" is Du Pont's registered trademark for its polyester fiber.*

DU PONT

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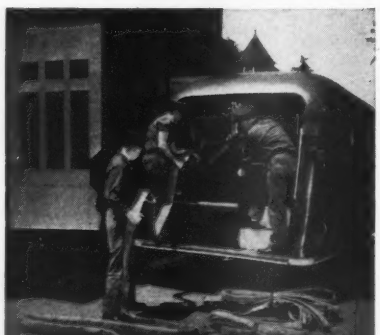
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY



Firemen rack hose at rear of engine. After the call, hose manufactured with "Dacron" dries faster . . . can be put back into active service more quickly.

FIRE HOSE MADE WITH "DACRON"—is easier to handle . . . gives improved performance . . . racks more compactly.

Automatically "breathes" for the victim . . . assures greatest chance of recovery . . .

M-S-A® PNEOLATOR

Successful "saves" with the M-S-A Pneolator are in the rescue records of fire departments all over the country. This instrument has been brought into play in cases of drowning, electric shock, poisonous or suffocating gases and heart attacks. Victims, from 8 months to 80 years, have recovered . . . thanks to the alert action of the firemen . . . the effectiveness of the Pneolator.

This unit intermittently inflates the lungs to a predetermined point, then cuts off to permit exhalation by the natural recoil of the chest and diaphragm. The action is automatic, continuous. When the victim starts breathing, the Pneolator automatically follows the natural breathing pattern. There is no suction cycle.

Pressure is regulated by simple settings that compensate for varying lung capacities. Two facepieces—for adults and children—are standard equipment. The unit is portable, and comes equipped with a half-hour oxygen supply. Write for details.

Note: The first few minutes after breathing has ceased are the most critical. Manual artificial respiration should be started immediately, and continued until Pneolator is in use.

MSA
SAFETY EQUIPMENT HEADQUARTERS

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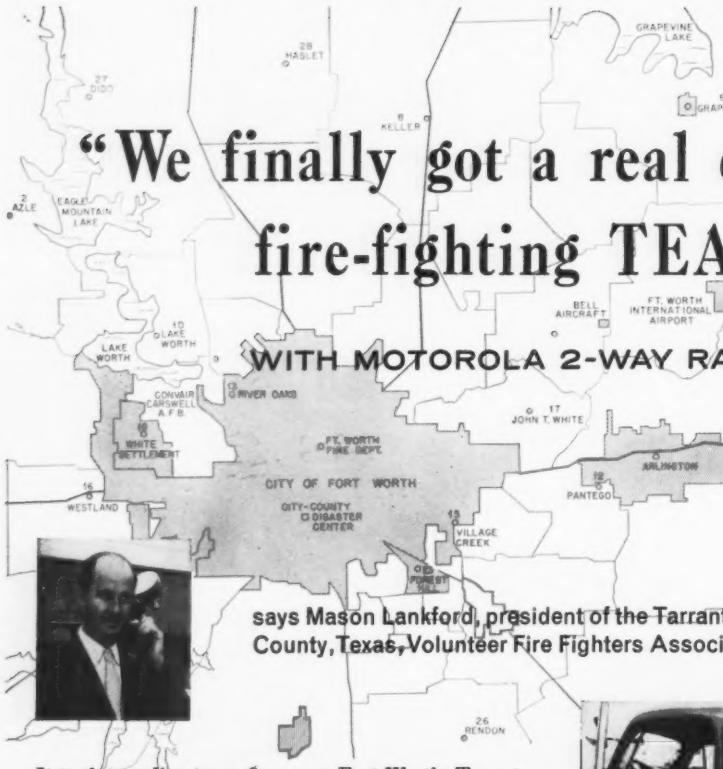
"We finally got a real county-wide fire-fighting TEAM WITH MOTOROLA 2-WAY RADIO"

says Mason Lankford, president of the Tarrant County, Texas, Volunteer Fire Fighters Association

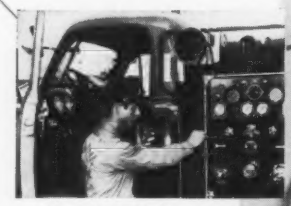


It took two disastrous fires near Fort Worth, Texas to prove that a small community fire department is helpless to overcome a major blaze without outside help. It proved the value of mutual aid *and* the need for proper communications between scattered volunteer departments.

So the Tarrant County Volunteer Fire Fighters Association came into being. Under Mason Lankford's aggressive leadership, the association has grown from its original 13 units to a total of 28 active departments —all welded into a closely knit team with Motorola 2-way radio. There are 34 base stations (28 department stations, and 6 for industry, armed forces and civil defense), 98 mobile units and 27 Handie-Talkie Radiophones—making the system one of the largest of its type in the nation.

Mr. Lankford says, "the prime use of our Motorola system is to help us get equipment moving faster, before the fire gets a foothold or goes out of control. But there are many other applications. For instance, Handie-Talkie portables enable fire-fighters to communicate with each other *at the fire*, wherever they are, and coordinates the work of boats in rescue and recovery operations. With Tarrant County encircled with radio equipped fire equipment, everyone in the various communities sleeps better at night"

Small communities or large cities, Motorola 2-way radio is ready to help you multiply your efficiency and give greater protection. Learn all the benefits. Write, phone or wire Motorola today.



Pump operator hears instructions over noise of pumper from weatherproof speaker mounted outside the cab.

Dual frequency base station transmitter in town of Lake Worth combines fire and police radio.

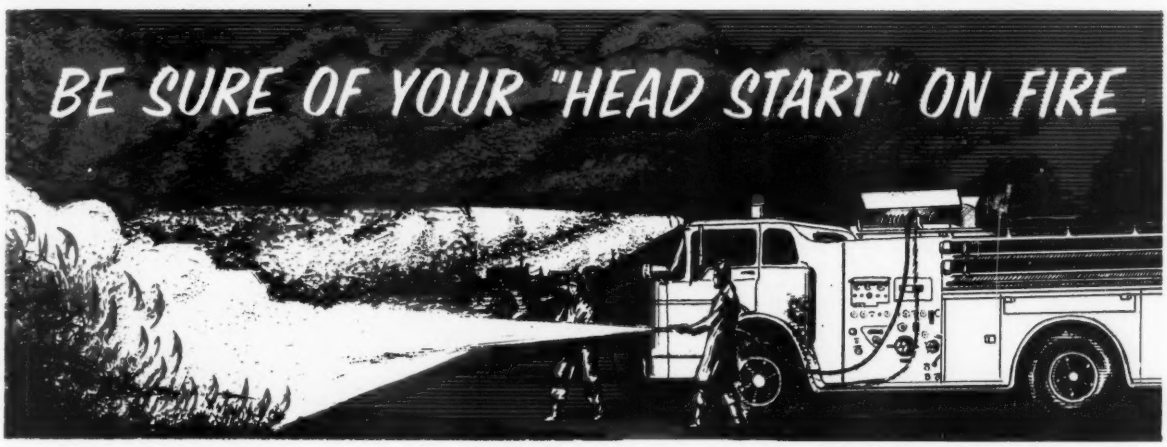
Handie-Talkie portable enables Chief A. T. Huffines to move about freely as he directs operation.

MOTOROLA

2-WAY FIRE RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC.
A SUBSIDIARY OF MOTOROLA, INC.
4501 AUGUSTA BOULEVARD • CHICAGO 51, ILLINOIS

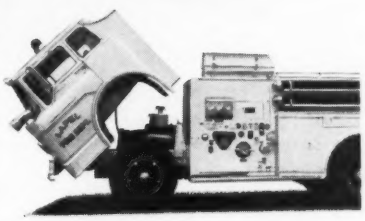
Motorola consistently supplies more mobile and portable radio than all others combined.
Proof of acceptance, experience and quality.
The only COMPLETE radio communications service—specialized engineering...product...customer service...parts...installation...maintenance...finance...lease.
"The best costs you less—specify Motorola."



. . . with a Pumper by HOWE

The only kind of "head start" you can get on a fire comes from the efficiency of your men and equipment. This HOWE DUAL FIRE FIGHTER is a unit with the efficiency that frees firemen for the fast action that cuts down losses. Main pump is Waterous CM-500 Electro-Matic, completely push button controlled. 4-Stage High Pressure Power Take-Off Pump, 60 GPM at 800 lbs. pressure, is supplied synchronized with the main pump to obtain maximum volume and pressure simultaneously. Pumps may also be used separately at maximum efficiency. 4-Stage Pump can be operated while truck moves fighting grass fires.

Other features are included to increase efficiency and reduce the number of men required to operate the truck. There are eight roomy built-in compartments to house generator, portable pump, masks, nozzles, etc. Heated compartment, protected by sliding steel covers, keeps hose reels, pump and piping from freezing. 1200 feet of 2½" hose carrying capacity. 750 gal. booster tank. Note that famous HOWE cab-to-body streamlining is maintained on the tilt-forward cab. Give your fireman every modern aid with a HOWE unit. Let HOWE build a pumper to fit your needs.



Enclosed forward cab provides exceptional visibility, tilts forward for access to the engine. This design provides maximum loading area for equipment on 135" wheel base and makes short turning radius possible—another advantage for fast action!

HOWE

HOWE

"dependable fire apparatus since 1872"

FIRE APPARATUS COMPANY

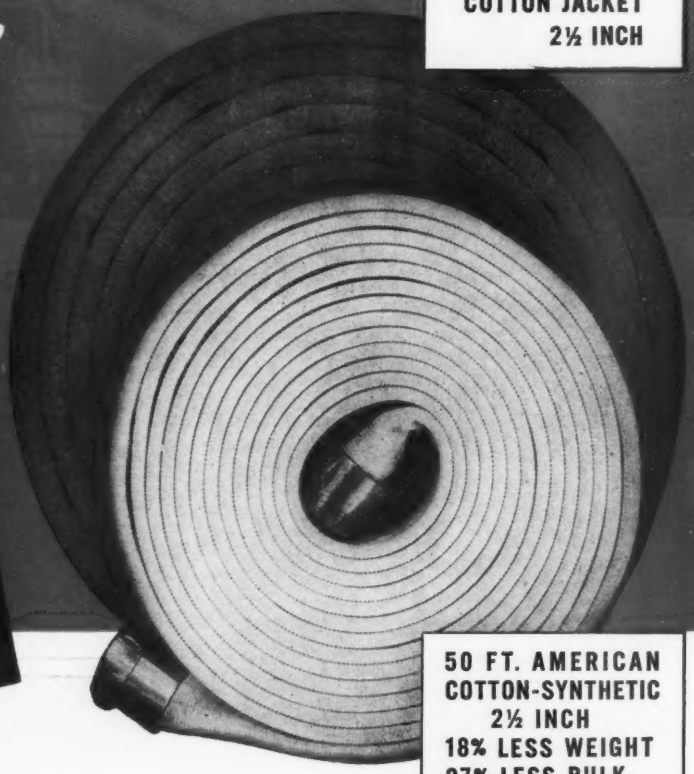
Member FAM (Fire Apparatus Manufacturers Association)

Dept. FE-68, 1400 W. 22nd St., Anderson, Indiana, U. S. A.

A GREAT HOSE PROVED BY YEARS OF FIELD TESTING

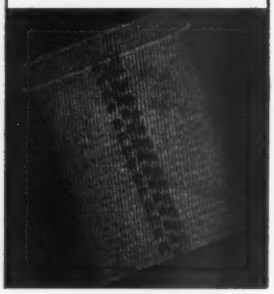
THE *American*
COTTON-SYNTHETIC JACKET *Hose*

400 AND 600 LB. TEST



50 FT. ORDINARY COTTON JACKET 2½ INCH

50 FT. AMERICAN COTTON-SYNTHETIC 2½ INCH
18% LESS WEIGHT
27% LESS BULK
50% STRONGER



Try this great new hose. See for yourself how its long-lived cotton-synthetic jacket and laminated natural rubber lining make for easy handling, while saving space and weight. Here's the story —

EASIER TO HANDLE—50′ of this AMERICAN Cotton-Synthetic Hose weighs 18% less than 50′ of average cotton jacket hose . . . enables firemen to move more hose faster. Also lies flatter, coils better, stays flexible wet or dry.

SAVES SPACE—AMERICAN Cotton-Synthetic enables you to carry at least 25% more hose.

STRONGER—High strength-to-weight ratio remains same wet or dry . . . tests prove it 50% stronger than regular hose.

Why lug heavy, bulky, hard-to-handle hose?
Order AMERICAN Cotton-Synthetic Jacket Hose—available in 400 and 600-lb. test—from your dealer NOW. . . or write us for details.

THE *American* RUBBER MANUFACTURING CO.

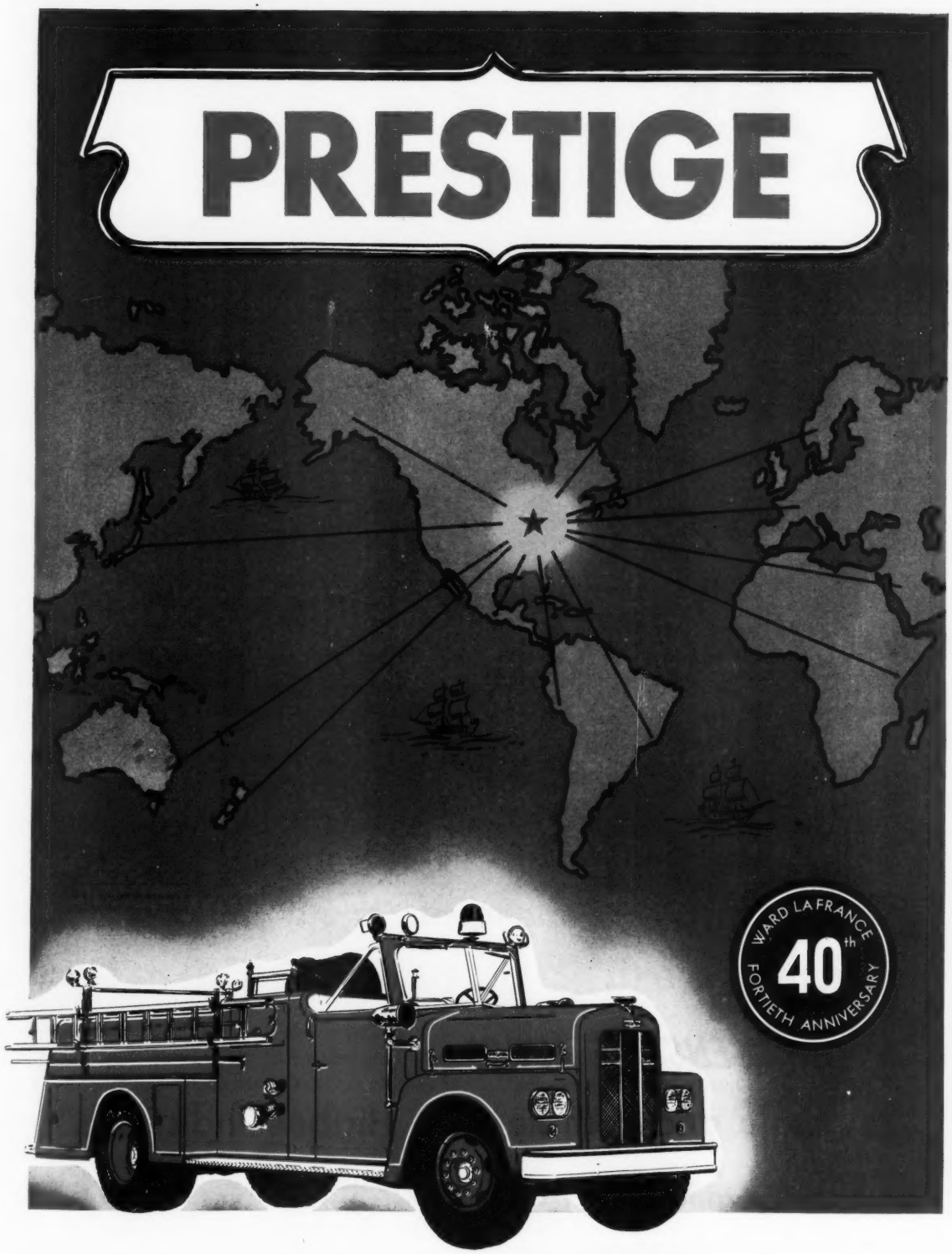
AR-26

MAKE SURE; Look for Identifying Stripe and Test Report

AMERICAN Cotton-Synthetic Jacket Hose has red, white, and blue identifying stripe. Each 50′ length is factory proof tested with couplings on, for strength, stretch, and twist. Test report accompanies hose.

Factory & General Offices: • 1145 Park Avenue • Oakland 8, California • Phone OLympic 2-0800

PRESTIGE



WARD LaFRANCE
TRUCK CORPORATION
ELMIRA, N. Y.

EXPORT: WARD LaFRANCE INTERNATIONAL, INC., ELMIRA, N. Y., U. S. A., CABLE ADDRESS: "WARDTRUCK"

FIRE APPARATUS MANUFACTURERS FOR OVER 40 YEARS

Powhatan

"SUPER-FORGE"

DROP FORGED BRASS COUPLINGS

LIGHTWEIGHT

NON-CORROSIVE

DURABLE

Plate No. 150-DFS

Three Lug *"SENSIBLE LUGS"*

on Male and Female with Higbee Indicators

Available in 1-1/2 and 2-1/2 inch sizes

POWHATAN BRASS & IRON WORKS

RANSON, WEST VIRGINIA

In The Same Location Since 1892

Saving a landmark on the Village Green, the Guilford Volunteers draw an admiring crowd. Sharing the attention is Washington Engine Company's Mack Type 85, 750 gpm pumper which helps protect the many priceless Colonial buildings in this beautiful old Shoreline town. Says Chief W. Elton Sheehan, "When Macks have to roll, they roll—immediately. When Macks have to pump, they pump—indefinitely."

New Mack in town is the North Guilford Fire Company's Type 85, 750 gpm pumper. Protecting an area of 45 square miles, Guilford's all-volunteer department is composed of 200 members of four companies and an emergency unit. It answers about 125 calls a year.

Prize-winning Guilford volunteers give

crack protection with Mack fire apparatus

Tradition and progress are the twin hallmarks of the Guilford, Conn., Volunteer Fire Department. Their traditions of all-out service have roots that go back to the town's founding in 1639. Their progress is shown by their insurance awards for outstanding service in the state in 1954 and 1955, and by their two modern Mack pumpers and city service ladder truck.

Like Guilford, Mack also looks to the past—as a source for traditions of highest craftsmanship . . . yet looks ahead in its ceaseless search for the means and methods of manufacturing ever-finer fire apparatus. For example, Mack has just opened a new plant in Sidney, Ohio—the most modern and best equipped center in the nation for designing and custom-building fire apparatus. Now more than ever, Mack can deliver equipment of highest dependability, conventional or cab forward, integrated from the wheels up to match your operational conditions. Mack Fire Apparatus, Sidney, Ohio. In Canada: Mack Trucks of Canada, Ltd.

6115

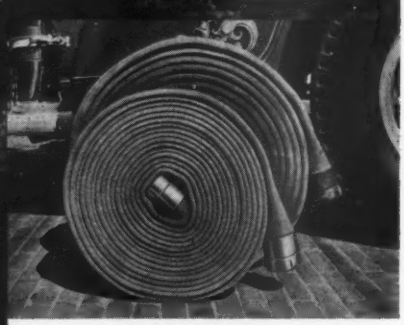
MACK
first name for
FIRE APPARATUS

COMPLETE LINE OF PUMPERS—500 to 1250 GPM...SQUAD AND HOSE WAGONS...AERIALS 65′ to 100′...COMBINATION LADDER TRUCKS

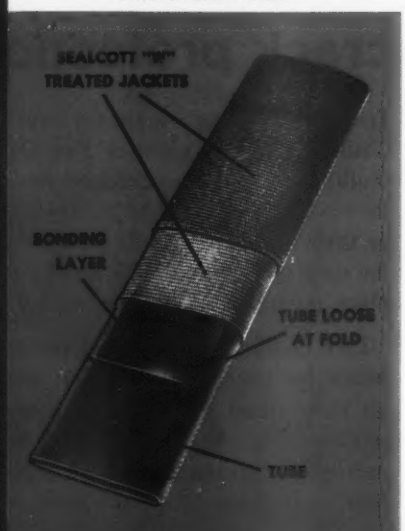
8-week burial couldn't kill Energy's immunity to mildew

Hamilton's Energy fire hose, impregnated with Sealcott "W" inhibitor, emerged from its damp grave as free from mildew as the day it was buried 8 weeks earlier. Sealcott "W" penetrates and seals the cords in both jackets from mildew and moisture, prevents freezing in action. Energy's exceptional flexibility and tube adhesion are not affected.

20% lighter than conventional types, Energy 600-lb. test hose uses Dacron filler cords in both jackets to increase strength and flexibility while reducing bulk and weight. Smooth nonporous tube, which is free at points of fold, allows greater flexibility, is non-acid forming, slow-aging and oxygen bomb tested. Write Dept. F-102 for details.



COILS IN LESS SPACE



Serving Industry since 1870

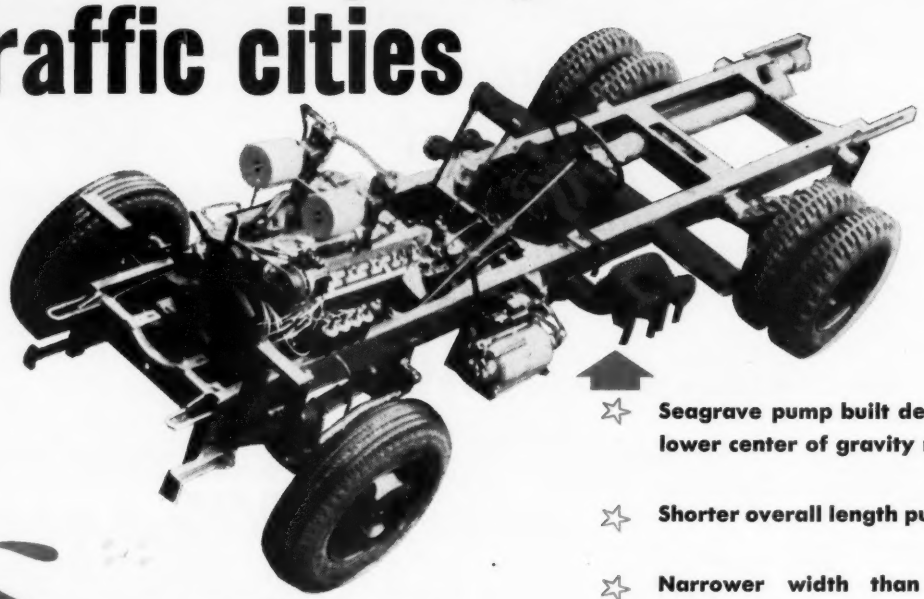
Hamilton Rubber

MANUFACTURING CORPORATION, TRENTON 3, N. J.

A Division of Acme-Hamilton Manufacturing Corporation

ATLANTA • CHICAGO • HOUSTON • PITTSBURGH • INDIANAPOLIS • LOS ANGELES • NEW YORK • SAN FRANCISCO

☆ Now available...Specially constructed shorter and narrower pumpers for heavy traffic cities



Seagrave

THE GREATEST NAME IN FIRE APPARATUS

- ☆ Seagrave pump built deep in frame for lower center of gravity makes possible:
- ☆ Shorter overall length pumping engines,
- ☆ Narrower width than the standard models,
- ☆ Easier and safer to handle in congested traffic.

Seagrave 4-Wheel Drive
Brush Fire Truck

A light weight truck at economical price for fighting brush, grass and small fires. Seagrave body built on 4-wheel drive commercial truck chassis. Has Seagrave all-bronze centrifugal booster pump or high-pressure pump with water tanks up to 300 gallon capacity.

MAIL THIS COUPON

THE SEAGRAVE CORPORATION,
COLUMBUS 7, OHIO

Send complete information about the Seagrave Fire Apparatus checked below—

- ☐ SEAGRAVE SPECIAL SHORTER & NARROWER PUMPERS
- ☐ SEAGRAVE 4-WHEEL DRIVE BRUSH FIRE TRUCK
- ☐ OR _____

(Use the above line for any other information you desire concerning Seagrave Fire Apparatus)

Name_____

Title_____

St. Address_____

City_____ State_____

F.E. 6-58

BROWN STEEL TANK CO., MINNEAPOLIS

protects its property *Automatically* gets better FIRE and BURGLARY protection and *saves $10,000 a year*

It is highly essential for us to maintain uninterrupted production. Therefore, we use the best available protection for our plant. Our experience with ADT Automatic Protection has proven superior to previous methods used, and it saves us approximately $10,000 a year.

W M Brown
General Manager

Protection is of vital importance to the Brown Steel Tank Co. in preventing conditions which might seriously delay production and delivery of heavy sheet-metal products, including truck, storage and pressure tanks.

Like thousands of other properties of all types from coast to coast, the premises are protected against fire, burglary and other hazards by a combination of ADT *Automatic* Protection Services, and *at lower cost* than other methods.

Sprinkler Supervisory and Waterflow Alarm Service maintains a constant automatic check on the water supply to sprinklers and *automatically* signals the fire department when the system operates.

Doors, windows and all accessible openings to buildings are guarded by ADT Burglar Alarm Service to summon police *automatically* should burglars attack.

In addition, ADT *automatically* supervises room temperature in the office area, steam pressure on the boiler and cutting off of power to a yard crane.

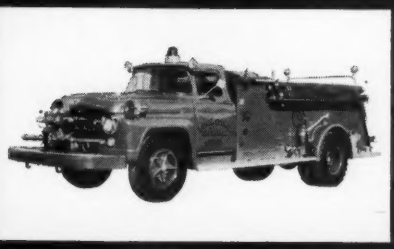
May we show you what ADT can do for you?

An ADT specialist will show you how combinations of these and other *automatic* services can save money and give you better protection for property, *profits* and employees' jobs. Call our local sales office if we are listed in your phone book, or write to our Executive Office.

ADT

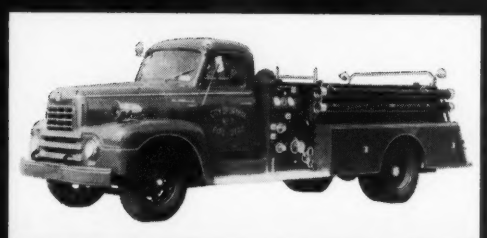
Controlled Companies of
AMERICAN DISTRICT TELEGRAPH COMPANY
Executive Office:
155 Sixth Avenue, New York 13, N. Y.
A Nationwide Organization

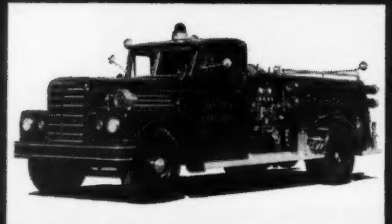
BOARDMAN



BUILDS

BETTER





PUMPERS

for Less!

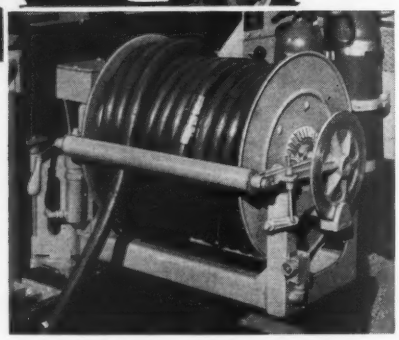
THE BEST PUMPER your community can possibly have is the pumper that fits its needs *exactly*. And Boardman pumpers are built to do just that, with the features and equipment you need. They are mounted on the standard chassis of your choice, for quick and inexpensive local service and maintenance! Boardman pumpers are built to your specifications — but for less than a "custom-built" price. WRITE AT ONCE for your copy of the new brochure, "BOARDMAN FIRE FIGHTERS."

BOARDMAN

THE BOARDMAN CO.

OKLAHOMA CITY

"...On Front Line Fire Equipment— only the best should be used"



This is a statement we hear time and time again and believe is echoed by just about every experienced firefighter. For, as you know, in no other industry is dependability and efficiency of equipment so important . . . right down to the last nut and bolt.

When that fire alarm rings you want to *know* your engines—and every last piece of equipment —are ready to go. And once you arrive at the scene of the fire you want to *know* hose can be unwound quickly and will be ready for immediate use—with water right at the nozzle.

That's why HANNAY Hose Reels are "the standard quality for fire fighting equipment." Because ever since the first HANNAY Fire Hose Reel was designed and built more than 20 years ago, making the best and most dependable hose reel has been our only business.

HANNAY® Fire Hose Reel Features

- **WATER RIGHT AT THE NOZZLE, ready to use.**
- **FULL-FLO HUB ASSEMBLY for free flow of water. OP 600 psi—or higher on request.**
- **TRU-CIRCLE DRUM preserves hose. No flat spots to bend hose.**
- **HEAVY-DUTY DRUM CONSTRUCTION with reinforcing assures rigidity and strength.**
- **ROLLED DISC EDGES have no sharp edges to cut hose.**
- **POSITIVE SPROCKET & CHAIN DRIVE always properly aligned and engaged.**
- **TROUBLE-FREE SWIVEL JOINT for dependable service in choice of 90° elbow or straight.**
- **HORIZONTAL OR VERTICAL CRANK REWIND. Hand crank standard on all reels.**
- **HEAVY DUTY MOTOR with push-button control has power for toughest jobs.**

For Every Type of Fire Fighting Equipment

. . . Greatest Name In Hose Reels

HANNAY®

© 1957 C.B.H.&S., INC.

CLIFFORD B. HANNAY & SON, INC.

Westerlo, New York

NOW!

LIGHTER THAN A WALKIE-TALKIE!

CONVENIENT AS A "WRIST" RADIO!

a NEW transistorized miniature 2-way "Belt" Radio

RCA Personalfone

The 2-Way Radio You Wear!

Today's biggest news in the communications field! The same communications mobility for roving personnel as RCA 2-Way Carfone Radio gives to trucks! Small transistorized receiver and a companion transmitter in two handy leather pouches that are worn on the user's belt. Personalfone can be combined with RCA mobile radio to provide faster and more flexible communications. Used by guards, watchmen, maintenance men, mechanics, firemen, police and a wide range of applications.

RCA Personalfone Transistorized FM Radio

- **Adjustable to any frequency in the 150 mc band.**
- **Receiver and transmitter in separate leather pouches.**
- **"Battery Saver" provides long battery life—150 hours minimum.**
- **Sealed-selectivity-fixed IF filter and crystal control assure excellent selectivity and stability.**
- **Equipped with antenna, battery, microphone, speaker or earphone.**

RCA...world leader in radio... offers you quality communications equipment to meet every requirement. Advanced engineering means greatest satisfaction, lowest maintenance. Expert service by RCA's own communications technicians. Find out about this efficient time-saving equipment today. Use coupon.

RCA Tmk(s) ®

RADIO CORPORATION of AMERICA

COMMUNICATIONS PRODUCTS
CAMDEN, N.J.

Radio Corporation of America
Communications Products
Dept. G-50, Building 15-1, Camden, N. J.
In Canada: RCA VICTOR Company Limited, Montreal

☐ Please send me FREE booklet on RCA Personalfone Equipment recommended for

_____

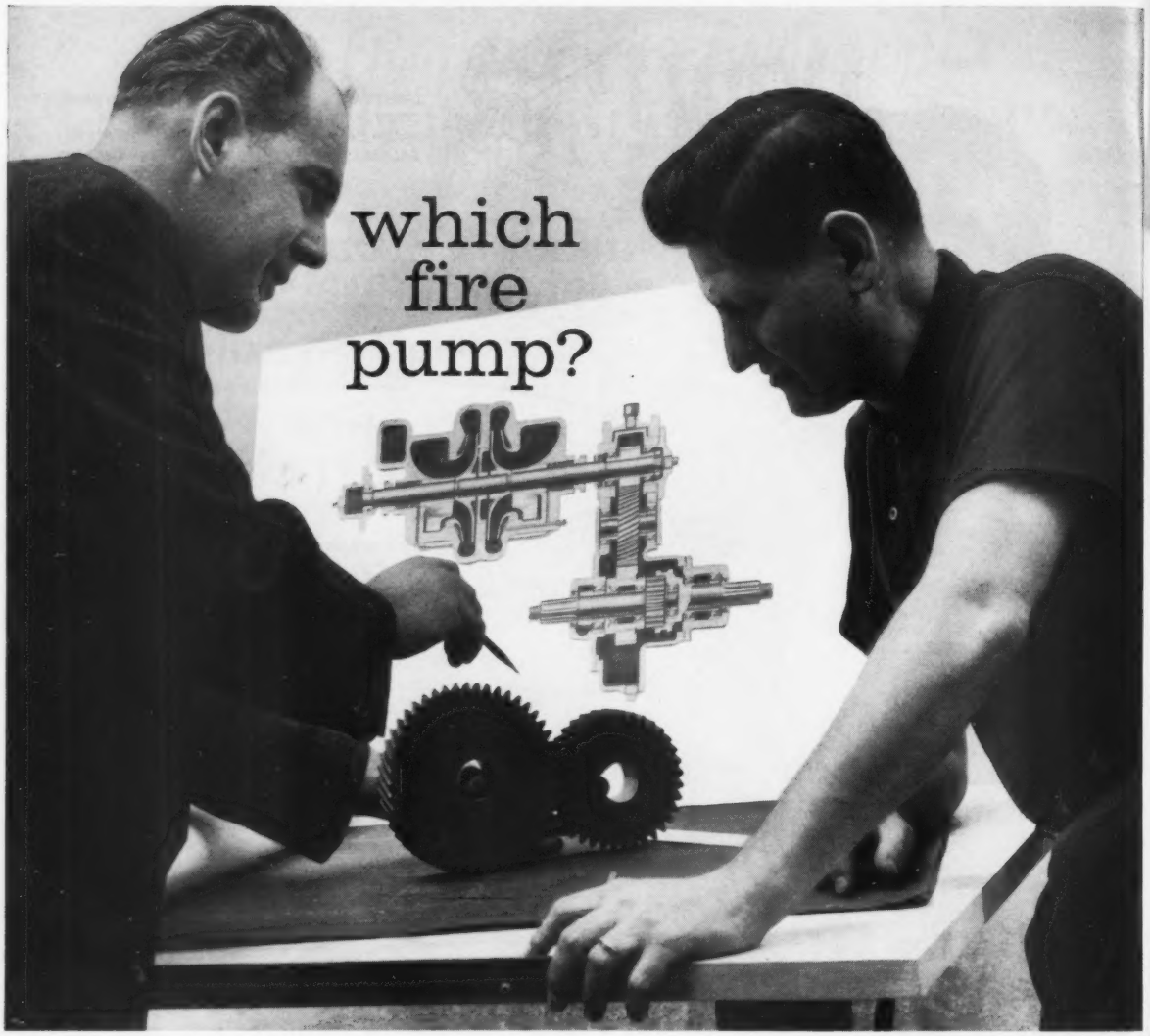
NAME _____ TITLE _____
PLEASE PRINT

COMPANY _____

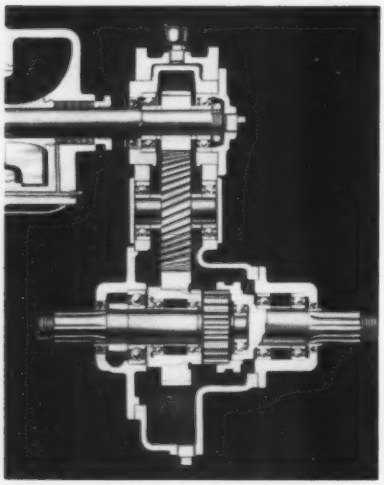
ADDRESS _____

CITY _____ ZONE _____ STATE _____

☐ Have RCA Communications Specialist contact me.



He chose the pump with extra-long life... the
WATEROUS *Electro-Matic** with the *helical gear train*



The helical gear train in the new WATEROUS Electro-Matic gives many extra years of life. Helical gears mean smooth, quiet operation. Gears are in constant mesh and each gear is securely mounted on ball-bearings. There are no sliding gears mounted on spline shafts to vibrate. Gears are hardened and ground. And, of course, all bearings are located outside of the pump chamber and are run in oil.

WATEROUS gears are *crown shaved* to assure that mating teeth contact at their centers. This eliminates possibility of tooth failure due to "end loading" as occurs in ordinary gears.

Illustration shows but one of the many reasons for WATEROUS dependability.

Send for catalog which gives complete information on Electro-Matic controls, high quality design, ease of maintenance, and over-all dependability.

WATEROUS *Electro-Matic*

80 E. Fillmore Ave., St. Paul, Minnesota, Dept. 307

*Registration applied for.

See the WATEROUS ELECTRO-MATIC in Booth No. 44 at the International Association of Fire Chiefs Convention, Shrine Exposition Hall, Los Angeles, September 16-19, 1958.

PROJECT YOUR COMMANDS

...like a Harpoon!

Now you can *reach out* with your voice . . . half-a-mile or more . . . to deliver instant commands and instructions.

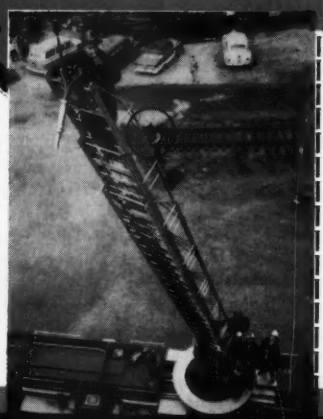
Simply point your Audio Hailer where you *need to be heard*—press the trigger and speak in a *normal* tone. Let the *instrument* do the work . . . *without* KILLING your voice!

New "TP" (transistor-powered) model uses 4 latest-type *power*-transistors (*not* portable radio types) . . . yet runs on standard flashlight cells! *More* power—*more* range—at negligible maintenance cost. Patented "anti-feed-back" design overcomes "howling"—in a compact, one-hand, 5¾ lb. unit. Costs far less than *any* type of portable voice equipment of similar power. TRY it yourself—mail coupon below.

AUDIO 'TP' HAILER®

transistor-powered

PORTABLE MEGAPHONE



Midland (Penna.) Fire Department uses Audio ***Guider,*** mounted on fly-ladder of aerial —with standard ***Hailer*** on the ground— to create unique, low cost "two-way" voice system. Coupon brings details.

AUDIO EQUIPMENT CO., INC.
75 HARBOR ROAD, PORT WASHINGTON, NEW YORK

- ☐ Send brochure, with prices, on Audio Hailer.
- ☐ Send details of "two-way" aerial voice system.
- ☐ Have your local dealer make demonstration.

Fire Chief
(Or Safety Engineer) .....

Dept. (or Company).....

Town or City .....

Zone (if any).....State.....

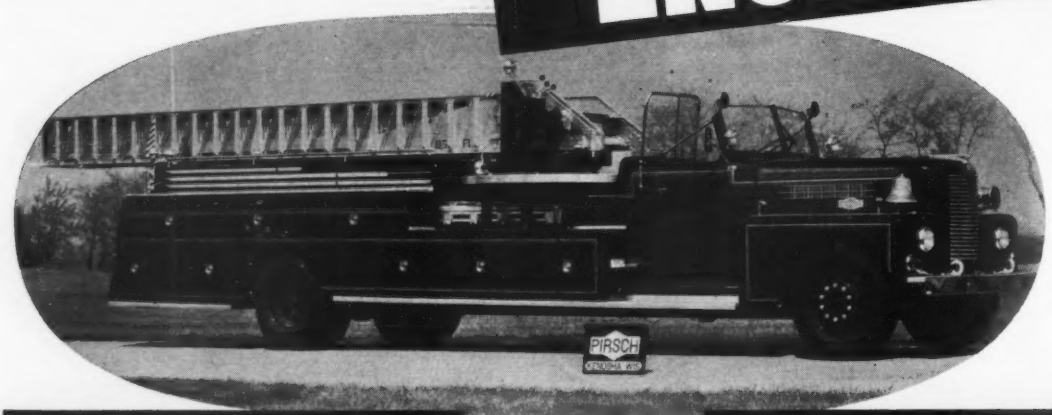
In 1908—the CHICAGO FIRE DEPT. —then as now—was up-to-the-minute with Waukesha Engine powered equipment.

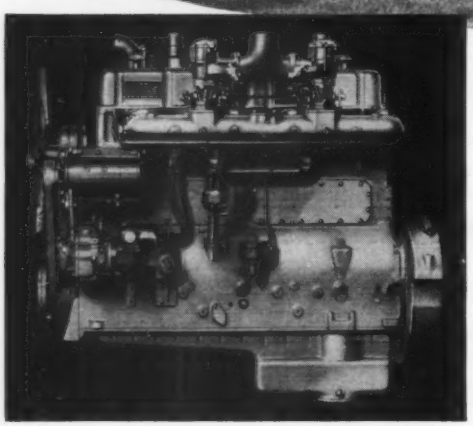
for over fifty years—

...Waukesha Engines—*first* in fire fighting—the preferred power for the finest equipment, because specially built for *faster* fire fighting, they are reliable all the way. *Waukesha Motor Company, Waukesha, Wisconsin, New York, Tulsa, Los Angeles.*

first in FIRE FIGHTING

WAUKESHA FIRE FIGHTER ENGINES





WAUKESHA FIRE FIGHTER ENGINES

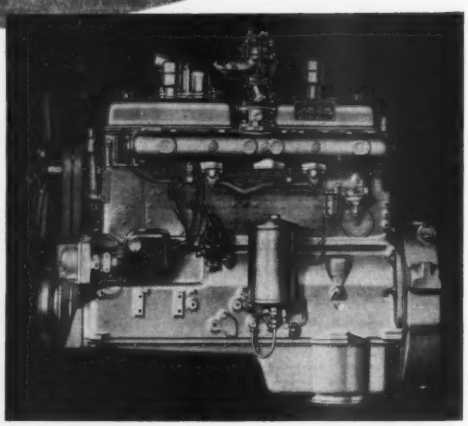
Counterbalanced or Non-Counterbalanced

Typical 145 Series 779 or 817 cu. in., up to 300 hp.

Typical 140 Series 525 or 554 cu. in., up to 250 hp.

Send for Bulletins

321-R



if your men aren't wearing Bullard helmets... head protection is costing you too much!

MORE FIRES FOR YOUR MONEY!

Expose rugged Bullard HARDBOILED fire helmets to searing flame (high as 2,000° F.), freeze them, soak them in boiling water... these grueling punishments won't soften or weaken a Bullard fire helmet's protective characteristics! This is the only fire hat that exceeds Federal specifications. No Fire Helmet is tougher, yet few are as comfortable to wear. Light and cool on your head... made from non-conductive fiber glass they weigh only 20 ounces. In a choice of permanent non-fading colors, these helmets are equipped with replaceable suspensions that adjust to all standard head sizes. Today, ask to see how Bullard Fire Helmets make your budget go further... help you fight more fires for the money!

Stop First Aid Water Damage

New Bullard Fire Department First Aid Kits are 100% water proof. Every supply is separately sealed in Polyethylene wrappers. Includes the new approved, spray-on, pain killing burn treatment... *First On Burns.*

Economy Gas Masks

Equip your units with gas masks at a 12% saving. Bullard "SMOKE-EATER" gas masks contain exclusive money saving filter for toxic dusts, fumes, mists, fogs, and smoke.

BULLARD
INDUSTRIAL SAFETY EQUIPMENT

E. D. BULLARD COMPANY SAUSALITO, CALIFORNIA

See your local fire equipment dealer or write for catalog of complete line of fire helmet accessories.

First transistor-powered mobile radios thermostatically protected

General Electric's Progress Line mobile radios now offer transistor advantages in all bands.

New transistorized power supply for both transmitters and receivers means no vibrators to replace, no rotating or vibrating parts to wear out. Transistors, plus high quality silicon rectifiers, give you the most dependable mobile communication known today.

Progress Line mobile radios with transistorized power supplies are available in *all* communication bands: 30 to 100 watts in low band (25-54 mc), 25 or 50 watts in high band (144-174 mc), or 15 watts in UHF band (450-470 mc).

OPERATE FROM EITHER BATTERY POLARITY—Only General Electric's Progress Line lets you operate on either positively or negatively grounded 12 volt batteries. This is especially important in fleet operations.

IMPROVED RANGE—Vibrator hash usually associated with receivers is totally eliminated by the use of transistors. The result is maximum receiver sensitivity.

NOT DAMAGED BY VOLTAGE VARIATIONS—Unlike vibrators, transistorized power supplies can withstand battery voltage variations from +20 to −50 percent.

PROGRESS WITHOUT OBSOLESCENCE—No need to buy new power cable or control head. General Electric Progress Line mobile units with either new transistorized power supply or regular vibrator power supply are *completely interchangeable.*

Call your G-E communications consultant for full details. He's listed under "Radio Communication Equipment" in the Yellow Pages. Or write General Electric Company, Communication Products Department, Section 1268, Syracuse, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

New 1000-A SERIES

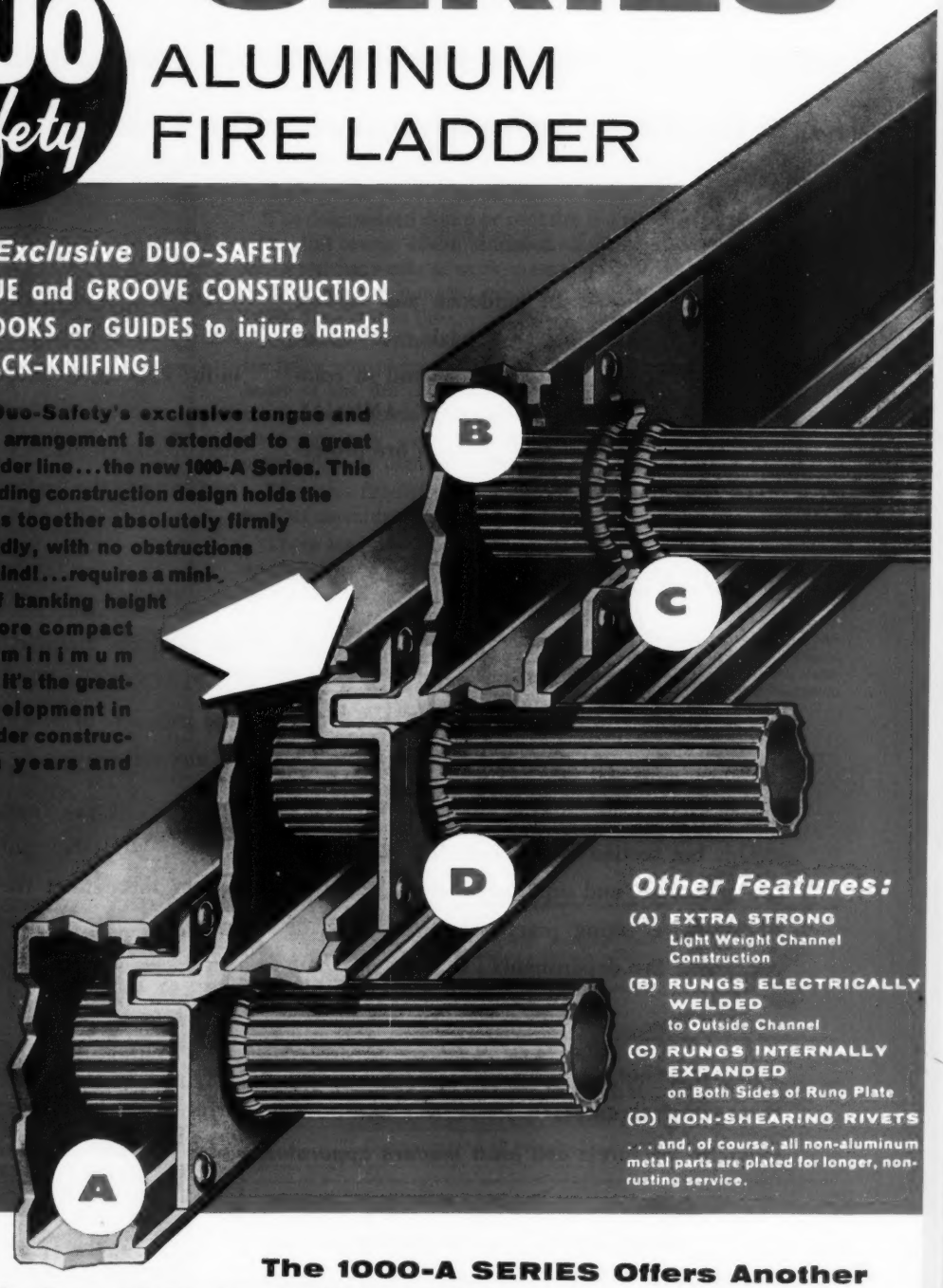
DUO Safety

ALUMINUM FIRE LADDER

***with Exclusive* DUO-SAFETY TONGUE and GROOVE CONSTRUCTION**

- **NO HOOKS or GUIDES to injure hands!**
- **NO JACK-KNIFING!**

Now, Duo-Safety's exclusive tongue and groove arrangement is extended to a great new ladder line... the new 1000-A Series. This outstanding construction design holds the sections together absolutely firmly and rigidly, with no obstructions of any kind!... requires a minimum of banking height ...is more compact with minimum weight. It's the greatest development in fire ladder construction in years and years!



Other Features:

(A) EXTRA STRONG Light Weight Channel Construction

(B) RUNGS ELECTRICALLY WELDED to Outside Channel

(C) RUNGS INTERNALLY EXPANDED on Both Sides of Rung Plate

(D) NON-SHEARING RIVETS

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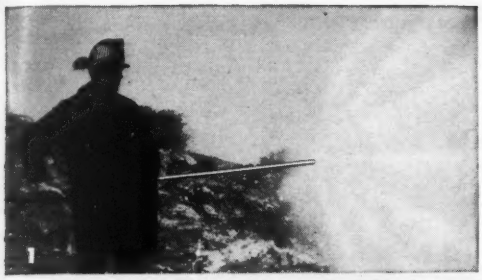

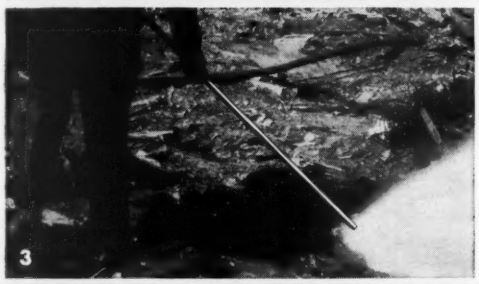

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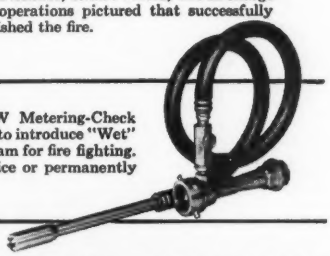
Photo strip on left shows (1) Rockwood Bayonet piercing applicator ready for use (2) Rockwood Eductor and Wet feeding wetting agent solution to Bayonet Nozzle (3) Bayonet being inserted at fire location (4) Bayonet partially inserted; note, steam rising from rubble (5) wet water reaches deep seated hot spot causing steam eruption and ground depression (6) Final steam cloud as hot spot is extinguished.

Earl C. Griffith, Chief of Fire Department, of East Providence, Rhode Island, was in charge of the operations pictured that successfully extinguished the fire.



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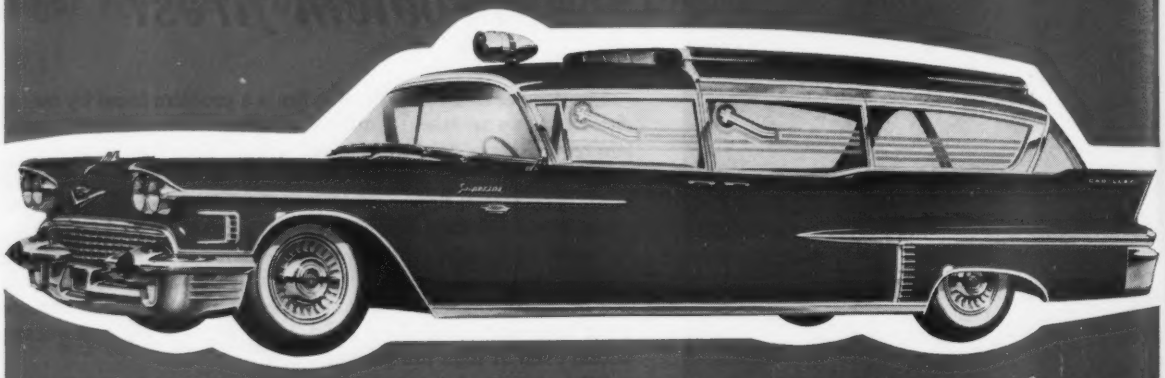

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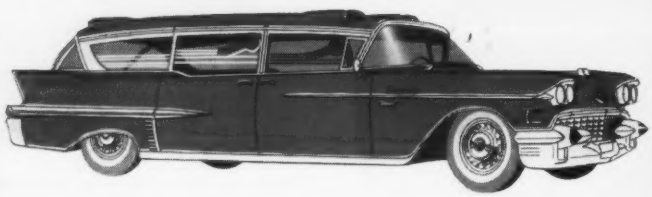
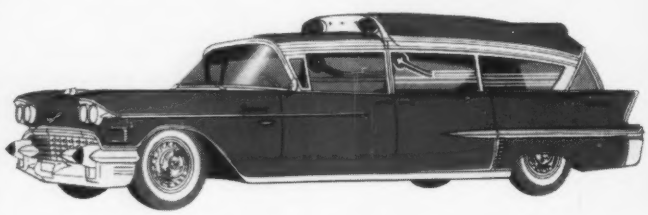


(Top) The Rescuer, for heavy duty. (Above) The Ambulance, for hospital and emergency calls. (Below) The Super Rescuer, designed and equipped for disaster work. Three headrooms, three functions, but all feature rugged strength for safety; low loading height; generous working space and room for all auxiliary equipment.



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VOL. 111, NO. 6

FIRE ENGINEERING

THE JOURNAL OF THE FIRE PROTECTION PROFESSION SINCE 1877

JUNE, 1958

Fire Knows No Economies

Postpone . . . Put it off 'till next year . . . Patch it up and make it do!

Does all this sound familiar to you who administer our fire departments? More than likely it does. It represents thinking which apparently dominates large segments of our municipal administrations in these days of so-called "recession."

"Postpone purchasing that badly needed equipment . . . Put off inaugurating that program of modernization and improvement in the department . . . Patch up the old wornout and obsolete facilities and make 'em do!" **A swelling chorus that is too often heard today, at the very time when our losses in lives and property were never so heavy and destructive of the nation's economy; a chant that is heard at a time when many of our fire forces are being stretched to the danger point in their struggle to keep on top of the multiplying fire hazards which are a concomitant of our almost fantastic municipal growth.**

Of course economy is essential in municipal administration at all times, and particularly when tax dollars are hard to come by. But—

What is *economy* in fire protection and prevention? Is it in refusing to fill manpower quotas when more, rather than fewer fire fighters are so badly needed in so many fire departments?

Is it taking chances on obsolete fire fighting equipment and apparatus when it is more imperative than ever (measured by our mounting fire waste) that our fire attack and response be prosecuted with increased energy and determination?

Is it in postponing purchases of those essentials which are needed to improve working and housing conditions of our fire fighters at a time when morale and esprit de corps mean more to the nation's fire service than ever before?

Let's be honest with ourselves and our municipal fathers. No one close to the fire service will deny there is room for improvement in its administration and its methods. But for the most part, authorities will be as quick to point out that these needed improvements cannot be plucked out of thin air. You don't find schooled, healthy fire fighting personnel growing on every bush. Nor will you find the high-quality, essential "tools and machinery" upon which efficient fire control depends, on every "bargain counter."

There are doubtless certain facets of municipal services which can buy and use "seconds" and less-than-the-best, and where top-quality standards are not so imperative as they are in the critical business of fire control. Certainly not even the most short-sighted "economist" will deny that forces that deal with life and death, as does the fire service, should be the last to feel the economy pruning knife.

Carrying this reasoning further, the outlays for those essential elements—from men to machines, upon which our fire forces and our ability to save life and property depend—should be upped as the needs of the community grow.

These are simple facts which those who head fire departments will do well to ponder. There is no time for false economies; there is such a thing as "saving at the spigot and wasting at the bung." Destructive fire doesn't recognize "economies" in the fire service, except perhaps to profit by their misapplication as when a hose or a ladder, or a piece of equipment of below-standard grade purchased purely on a "price" basis fails in operation. The business of being a fireman is hazardous enough in itself without subjecting fire fighters to the added risks inherent with substandard facilities—in the mistaken guise of "economy."

Roi B. Woolley

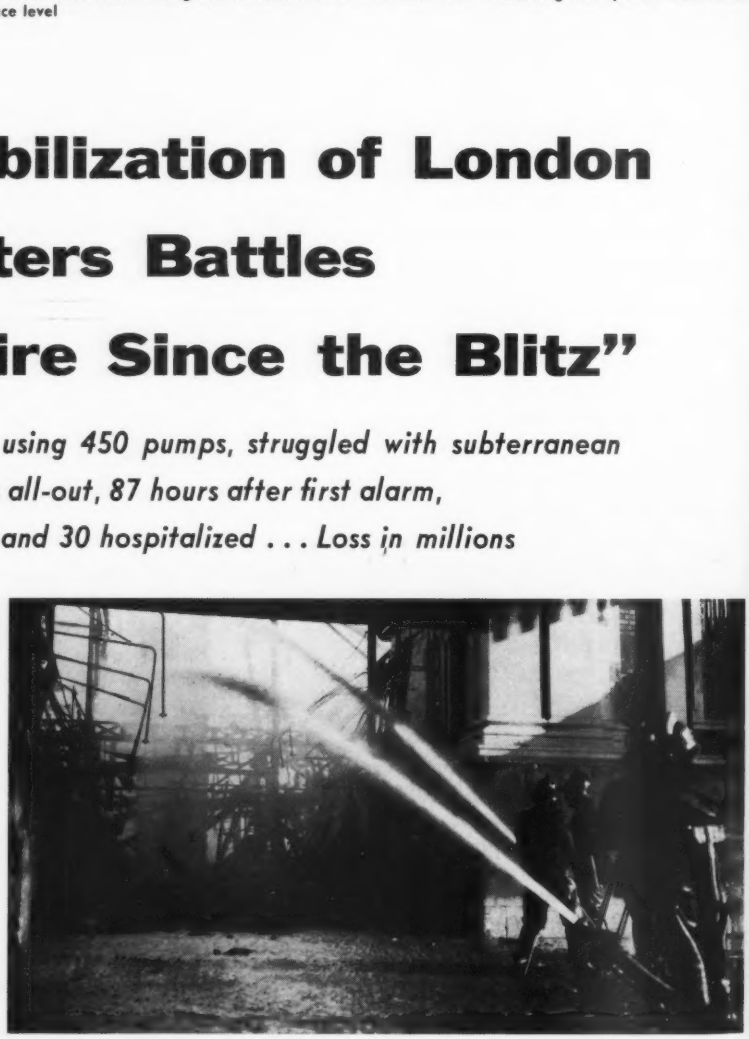
Gutted London Poultry Market seen from the air with towers and roof gone. Smithfield Street at left. Note connecting over-passes with other market structures. Main body of fire was below surface level

Mass Mobilization of London Fire Fighters Battles "Worst Fire Since the Blitz"

Over 2,000 firemen, using 450 pumps, struggled with subterranean market blaze . . . Before all-out, 87 hours after first alarm, two firemen were dead and 30 hospitalized . . . Loss in millions

THE PROTRACTED, FATAL AND COSTLY fight to control and extinguish the sub-surface, labyrinth fire that destroyed London's Smithfield Market last January presented many operational problems for the City's Fire Brigade, some of which may well be duplicated in any American city.

FIRE ENGINEERING is privileged to publish the following condensed version of the several excellent reports of this incident which were contained in Britain's leading journals devoted to the fire service: *Fire Protection Review* (Benn Bros. Ltd., London); *Fire* (Hodgetts, Ltd., London); and *The Fireman* (Merryweather & Sons, Ltd., London). Acknowledgement is also made of the data taken from the official report on the fire by F. W. Delve, C.B.E., Chief Officer of the London Fire Brigade.



London firemen wet down shell of the Poultry Market. Picture shows brick-masonry wall and interior ironwork construction. Note the type of hose holder used by fire fighters. Scene 28 hours after fire started

Building and occupancy

The occupancy involved, known as the Smithfield Poultry Market, is one of four market buildings of about equal size comprising the London Central Markets. The several structures, all of a pattern, cover a surface area of about 10 acres in extent; the sub-surface, or basement area is considerably larger because of the vaults which extend under the pavement, beyond the building lines.

The Poultry Market approximately 255 feet by 245 feet, occupies an island area' between Charterhouse Street and West Smithfield on opposite sides, and two unnamed roads on the remaining sides. At the time of the fire the building was used for the sale of meat carcasses as well as game and poultry. An estimated 800 tons of these products were in the structure when the fire originated.

The Poultry Market consisted of a ground floor building with galleries and basement, the latter being divided into 90 storage compartments, many being further sub-divided into cubicles. Certain of these could be entered from the basement corridors, others were accessible only through traps in the ground floor. Access to the basement itself was by means of lifts (elevators) and trap openings in the pavement surrounding the market.

The basement space was further divided into areas of almost equal size by the roof of a disused railroad (subway) tunnel which passed diagonally through it. The tunnel, which played a part in World War II, was bridged at two points by steps leading to crossovers having limited headroom.

A tunnel containing refrigeration equipment connects the Plant room of the Union Cold Storage plant in Smithfield Street with the basement of the market and passes under Smithfield Street(width 60 feet). Main corridors giving access to the basement were fitted with heavy insulated doors to form air locks for maintaining refrigeration temperatures in the basement. Most of the cold stores in the basement were refrigerated by a system of chilled air passed through timber ducts from the Union Cold Storage premises, although certain basement compartments were cooled by independent units.

Thermal insulation, which played an important part in the fire, was extensive. One section of the structure, rebuilt after the war damage, was insulated by slab cork covered with cement. Elsewhere, the insulating material consisted of granulated cork, slab cork or slag wool held in position by timber studding and matchboarding. Large quantities of bituminous sheeting were used with the insulating materials. In some places the latter followed the line of the ceiling arches and in others it was so fitted that a void was left between the insulation and the brickwork.

The galleries and ground floor were partitioned to form offices and shops. The partitions were mostly timber, lath and plaster on timber studdings; breeze blocks rendered with plaster on expanded metal and brick work.

The basement floor was of concrete; the ground floor was formed of part brick arches about two feet thick, part stone slabs about eight inches thick on unprotected cast iron joists and "H" beams. The whole of the ground floor was covered by wood blocks three inches thick.

Walls were load-bearing brick, partly stone-faced, and carried ornamental towers about 50 feet tall at the corners of the Charterhouse Street elevation and ornamental features at the center of the four walls.

The pitched roof was of slate on boarding and contained wired glass louvres in timber battens. The roof was supported by cast iron columns braced by cast iron lattice beams; neither columns nor beams were protected against fire in any way.

The Poultry Market was connected to two similar structures by means of large overpasses (see airplane illustration, opposite page) which locations constituted the most serious exposures.

Story of the fire

The London Fire Brigade was called to the Union Cold Storage premises in Smithfield Street at 2:18 a.m. on January 23. The initial response was one pump-escape, two pumps, one turntable ladder and one emergency tender.

Although the cause of the fire is not

Continued on page 488

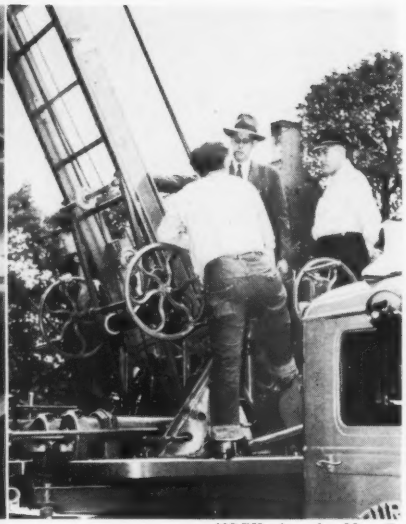
Spray nozzles are used over street opening in effort to ventilate and cool stubborn subterranean fire under London's poultry market. Tower in the background collapsed with roof later as fire gutted interior. Two firemen killed, 30 injured in costly blaze

Exterior above ground operations after all firemen were removed from the poultry market and roof had fallen in. Note pavement bricks near hole dug to gain entry to subterranean fire

Fireman casualty of the protracted struggle to extinguish the poultry market fire, being removed to hospital. Note type of breathing apparatus used by London firemen

NBFU photo

NBFU photo



—NBFU photo by Morsello

Above left: Water systems carry the greatest weight in the grading of a community. Here a rating engineer discusses elevated supply with local water department superintendent. **Center:** Flow tests assist engineers to determine effectiveness of community water supply system. The principal requirement is to deliver sufficient quantity to hydrants to supply fire department pumpers. **Right:** Putting apparatus through its paces is an important detail of rating board inspections. Here the board engineer checks aerial ladder elevating mechanism with the officer and two laddermen

Make the Most of the Rating Boards!

Professional fire protection engineering assistance is available through them without cost to fire departments

By DONALD M. O'BRIEN

REVIEWING THE PROGRESS made by fire departments, large and small, throughout the nation in the last three-quarters century, it is obvious that probably the most important factor behind all the growth and development has been that of just plain money. It takes money, and substantial amounts of it, to organize, maintain and administer a fire department, volunteer or paid, or a combination of both.

Financing a department therefore, may be called the No. 1 problem of the fire service. It doesn't matter whether the money is to come from the city budget or the individual citizen via bingo or whathaveyou, getting the wherewithall to operate brings more grey hairs to fire department administrators than fighting blazes.

Every fire chief at some time in his career is faced with the need of justifying the requests for increased funds submitted by his department. This is the particular phase of the executive's job that is most irksome and distasteful to him. Nor is it altogether pleasant for those civic administrators who must weigh the requests and take appropriate action.

Of course the nature of the request will have some bearing upon the reception given it by those in authority—it is always easier to secure medicine after the disease is diagnosed—but in the main, it is necessary for the fire chief or his aides to justify their requests and buttress them with something more than personal opinions or generalities. The "wish may be father to the thought" but it is not father to the budget.

Faced with the recurrent problem of financing improvements, let alone keeping the department going on an even keel, the fire chief and his aides cannot afford to overlook any source of assistance upon which they may rely for factual or other support that will assist them in both preparing their case and presenting it to those who must pass judgment upon it.

Naturally, the greater the amount of money included in the request, the greater the need for this assistance. Also, the more technical the problems involved in the subject up for consideration, the more important may be the need for scientific and engineering assistance.

This technical phase becomes particularly important when, as is usually the case, the merits of the particular budgetary request are compared to those of other political subdivisions in the same area, county or state. Often such comparisons are invidious and unfair. Too frequently they result in unfavorable decisions for the fire department with attendant disastrous results to local fire protection.

Ask the rating board

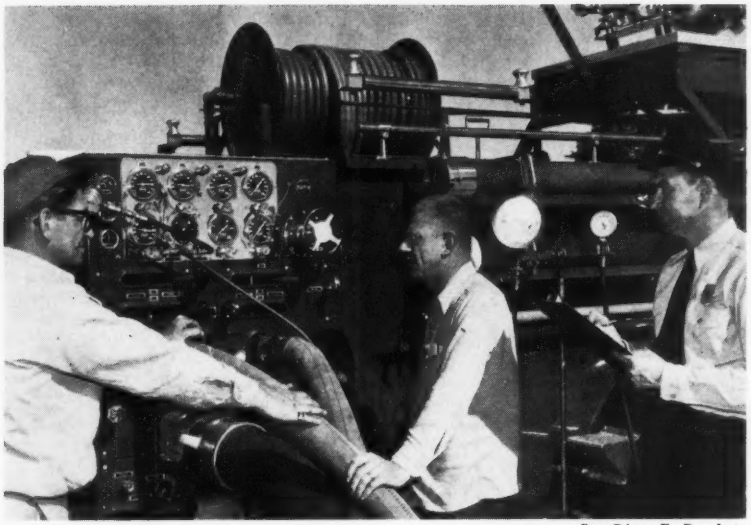
The question arises: What is the best way for fire department administrators to cope with situations such as this which arise periodically?

This article is not intended to suggest to fire administrators how they should review their financial problems or prepare and submit their requests. That would be the worst kind of presumption on the part of the author. Rather the purpose is to suggest not a new source of assistance, but possibly better use of a source which already exists. That source is the state rating organization.

Before going on, let me emphasize that this message is intended primarily for fire department administrators and officials in communities of less than 25,000 population, wherein the fire defenses are con-

—NBFU photo by Morsello

Timing speed of fire alarm boxes is an essential detail of studies of the entire communication system which rating engineers carry out



San Diego F. D. photo

Engineer of Board of Underwriters of the Pacific supervising NBFU acceptance test of new pumper with department master mechanic and manufacturer's delivery engineer. The rating board provides this important service for communities to insure compliance with specifications and good engineering practices

sidered and evaluated by a state rating organization.

The "Fire Insurance Inspection and Rating Board," as it is generally termed, is one organization operating in the field of fire protection that can help the harassed fire officer solve technical and other local problems. Regardless of its correct title of rating board or bureau, it is capable of assisting the fire department in many ways.

Primarily the organization conducts community inspections for the purpose of establishing insurance rates. In accomplishing this objective it becomes intimately acquainted with the strengths and weaknesses of each individual fire department within its jurisdiction.

Grading schedule is guide

Nearly all the rating organizations use the "Standard Schedule for Grading Cities and Towns" as promulgated by the National Board of Fire Underwriters. This is an accepted engineering standard for computing the relative effectiveness of the fire defenses of any community. By properly interpreting the grading of any community as established by applying the principles of the schedule, the fire chief may find answers to many questions which have been bothering him and perhaps his commissioners or civic superiors.

Rating organizations may vary in physical makeup from state to state as they do in terminology, but basically all perform their rate-making function in a similar manner. It may be found that several such organizations are in operation in a given area.

The service they perform is done primarily for the insurance companies that maintain offices or agents in the territory. They may be wholly supported by stock insurance companies, mutual insurance companies, or combinations of both. In the State of Texas, the rating organization is under the control of the state government. However, the Fire Prevention and Engineering Bureau of Texas, which is operated by the stock insurance companies, does offer consultation service.

Division of functions

From the viewpoint of the rating organizations and the National Board of Fire Underwriters, all communities are divided into two general categories: Those above and those below 25,000 population. The National Board inspects the fire defenses of the cities above 25,000 population, grades them according to its findings, and then turns its reports over to the rating organization having jurisdiction in the respective area. The rating organization in turn compiles the insurance rates for those cities which are partly based upon the findings in the reports and publishes the results for their subscriber insurance companies.

Rating boards are composed of several sections or departments. Prominent among these sections is the engineering staff. The members of this staff will visit the communities not inspected by the National Board, inspect the fire defenses, grade them as outlined in the Board's schedule and assign a basic insurance rate from the data in its findings.

It is the engineering section that firemen most frequently encounter and which is in the position to offer greatest assistance to a troubled fire chief. Many times fire fighters and rating engineers first become acquainted when involved in a NBFU acceptance test of a new pumper. One of the services offered by the rating board is the supervision of these tests. Sometimes the manpower situation prevents the rating board from providing an engineer to physically witness the tests. In that event, rating engineers will check the figures submitted by the manufacturer's delivery engineer or other person performing the test, and witnessed by the fire chief and other community officials. The engineering section will then notify the fire department whether or not the pumper meets the specifications.

Community rating

As we have said, the majority of the work of the engineering section of a rating organization consists of community inspection. Regardless of the size of a fire district, hamlet, village, or city, the fire defenses will be reviewed and evaluated at regular or irregular intervals. This takes us back again to the Board's schedule.

In this, the points covered are rated under eight general categories. These are in relative order of their importance:

1. Water supply, 34 per cent
2. Fire Department, 30 per cent
3. Structural conditions, 14 per cent
4. Fire alarm system, 11 per cent
5. Fire prevention activities, 6 per cent
6. Building codes and laws, 4 per cent
7. Police protection and cooperation, 1 per cent
8. A special category concerning climatic conditions

Using the procedures outlined in the "Standard Schedule" the rating board assigns deficiency points for all items not meeting the requirements. Upon completion of the inspection, the aggregate result is tallied or "graded," checked for accuracy, and from this a classification is assigned to the community.

Make use of grading reports

Fire chiefs wishing to strengthen their departments will find that a grading report is a ready-made analysis upon which a course of action may be based. If a current report is not available, a request

may be addressed to the rating board for an inspection in order that plans for improvements may be predicated upon the up-to-date information which the Boards' survey and the reports disclose.

In such an inspection the engineers will cover in considerable detail the organization of the department. The ability of the chief, his assistants and company officers will be weighed, as well as the enlistment requirements of the personnel in the ranks. If the department in question employs paid men, their working schedules will be considered along with extra duty, vacations, sick leave, off-shift response and retirement provisions. Department regulations and discipline are also reviewed.

Apparatus will be closely scrutinized and a complete check made on its suitability, arrangement of equipment on the apparatus and the general care, maintenance and repair. Records will be checked to see if pump service tests are made and a performance test will be given to each vehicle. This will also include road tests.

The engineers will inventory all the department's equipment with special attention to hose. Records will be checked to determine if tests are made at regular intervals and threads will be closely scrutinized to determine if all are of the same size within a department.

The location, construction and suitability of fire stations also are considered, as are details affecting quick exit of apparatus, conditions of streets and other factors bearing upon response.

Drills and training, operational methods employed, together with mutual aid factors will be reviewed and graded; building inspections and the extent of personnel participation in this phase of the department's activities will be judged. Finally, all department records will be closely scrutinized to judge their suitability and completeness.

When the rating organization's inspection is finished, the engineers will then tabulate their findings and by applying the principles of the grading schedule will arrive at their conclusions.

If the fire department inspection is part of an over-all community grading, then all of the items previously mentioned in the review of the grading schedule will be checked. If however, the inspection is merely for assisting the fire department and is intended to bring the rating bureau's records up to date, then some parts of the schedule may be omitted. Usually in such a case, it is assumed that the water system is the same as the previous grading and only the remaining portions of the schedule are covered.

The report of the engineering staff of the rating board may be written or verbal and will contain all of the findings of the inspection. Normally the deficiencies are listed in their descending order of importance and will be accompanied by recommendations to overcome and correct the shortcomings.

It should be remembered that rating engineers are completely objective and impersonal in their viewpoint concerning the community they may be called upon to inspect. They report their findings based upon engineering standards established by the National Board of Fire Underwriters. If the report seems to reflect on the community fire department in any degree, it should be taken as a constructive warning to correct the shortcomings before the fire department finds itself down-graded.

Because of budgetary limitations, it may seem impossible to institute all the improvements recommended, but this should not necessarily discredit the entire report. It is essential in contemplating the report to study and analyze each individual clause as well as the document in its entirety. All of the recommendations should be given thoughtful consideration, and those which it is possible to accept immediately should be acted upon. This is an indication to the rating board that the community is attempting to provide proper fire protection and the board will then be willing to help institute the more difficult recommendations.

In this manner a fire chief can avail himself of an excellent opportunity to obtain professional fire protection consultation at no cost to the community. By reviewing each item of the grading in the light of possible improvement, it may be found that additional deficiency points can be removed in a relatively painless fashion. At the same time it may be possible to incorporate improvements that can lead to a more favorable insuranace classification for the community. In addition, the fire chief will be gaining much needed data and information that will assist him when called before his governing body to justify requests that may involve policy or financial changes.

Long and short-range action

Perhaps the best method of procedure based upon the rating board's recommendations is to lay out two plans of action for improvement. First, a short-range plan which involves little or no cost; second, a long-range plan which may involve capital expenditures and possible budgetary problems.

Short-range plans may include those items closely associated with administrative procedures which are frequently lacking in some smaller departments. These may include such details as fire reports, personnel records, station journal, training schedules and reports, apparatus records and reports, hose records and reports of tests, and a complete inventory of all apparatus and equipment maintained by the fire department.

One document which may play an important part in the engineer's survey and the rating board's final report is the annual report of the fire chief to his governing body. This should include a summary of information obtained from the above listed reports and records and which will give a complete picture of the department's activities for the period covered. It is also a logical place for the chief to make recommendations for improvement of services.

Long-range plans can be set forth for consideration, progress in short-range plans reported, and a general outline of the department's position in the light of such planning can well be mentioned.

The physical form of the department's reports and records need not be elaborate as long as the information is complete. The cost of such material will be negligible in relation to the advantages gained. This simple detail of good departmental administration is frequently overlooked by many smaller departments. This data and the method of preparing it can be had by consulting a rating engineer who will gladly recommend what should be included in each of the records and reports.

Other department activities which can be strengthened without expenditures of large sums, include training programs; broader fire inspections; discipline within the department, and of course, an improved comprehensive apparatus and hose maintenance program. These can be substantially buttressed by utilizing information and suggestions from the rating board.

All of the foregoing items will be reviewed and considered in the light of the needs of the individual department in question by the rating organization. Many fire officials consider this one of the most important advantages to be gained by a close liaison with the rating board.

Long-range planning naturally must be considered carefully in the light of both the fire protection required and what it is going to cost. Consultation with both community officials and the rating board is necessary in order that all parties concerned may understand the factors at issue. Generally, capital expenditures involved will concern the procurement of new apparatus, fire alarm equipment, or the relocation or construction of new fire stations.

It should be emphasized that the services of the rating boards are purely advisory and that necessary drawings, specifications and other engineering work required are outside of the sphere of their activity. However, they will review plans or specifications for the department and will offer their comments on their suitability. In this way the fire department and the community itself can be assured they are progressing on a sound, factual basis.

Once such a program is underway, the fire chief should make frequent checks to assure himself that satisfactory progress is being made. It is good practice for the department to keep the rating board appraised of the community department's progress as well as to report any difficulties so that their advice may be obtained.

Training assistance

In some sections of the country the rating boards provide training programs for the fire service. Where formal programs are not within the scope of their activities, it is possible that they may provide instructors or lecturers for specific topics of interest to firemen and they may provide instructional material and teaching guides to assist in rounding out a local program.

Officers' schools are becoming more popular in the smaller as well as in the metropolitan fire departments. Fire chiefs

Continued on page 483

—*All photos courtesy Rockwood Sprinkler Co.*

Left: East Providence assembly of 1½-inch hose, shut-off fog nozzle and bayonet applicator attachment being used to extinguish deep-seated dump fire—**Right:** Chief Griffith directs unidentified members of East Providence department in probing troublesome deep-seated hot spot in debris

Panacea for the Dump Fire Headache

The old, painful, costly procedure of seeking and soaking deep-seated fires in dumps gives way to a new, more efficient, economical Method

By CHIEF EARL C. GRIFFITH
East Providence, R. I.

IN COMMON WITH MANY CITIES of comparable size, East Providence has for many years experienced complex problems with that well-known "bug-a-boo," the city dump fire. But now, with the development of modern scientific fire fighting equipment, we believe the problem is solved.

In one section of the city, within a quarter mile of a high-value residential district and bordering on a heavily traveled main traffic artery, the city dump nestles in an old stone quarry covering a three-acre area.

The depth of debris in the dump ranges from 2 to 40 feet and contains just about everything imaginable including paper rubbish, old tanks, auto bodies, pianos, refrigerators, huge tree stumps and trunks, old lumber, large sections of demolished buildings, auto tires, wire and many other articles too numerous to mention.

Heavy streams employed

Because no effort is made to control dumping, the entire area of flammable rubbish lies exposed and frequently is ignited. Within a few minutes it becomes an almost uncontrollable three-acre blaze.

The attack used on this type of fire was a standard procedure, in operation for several years. Master streams employing deluge guns with a 1½-inch tip at 100-psi nozzle pressure for the specific purpose of volume, reach and penetration, were set up.

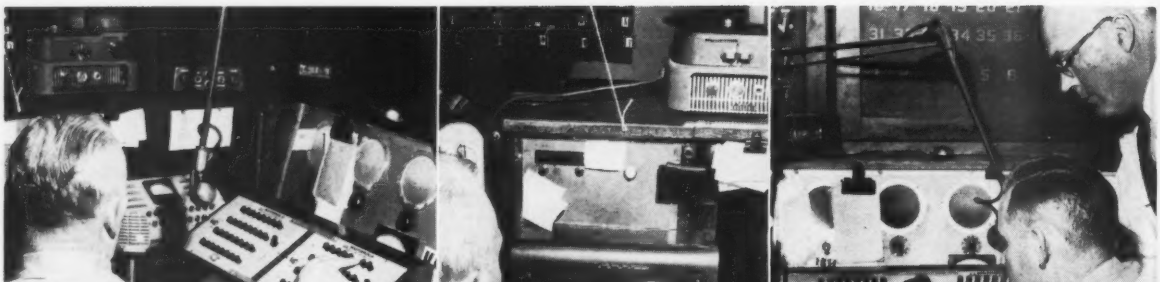
The average time for extinguishment of the entire area under this plan usually ran from two to four weeks and required not only time but tied up the crew of an entire engine company. The nearest hydrant is not in the immediate vicinity of the dump and it was necessary to run a pumper with two 2½-inch lines to maintain pressure.

After the flames of the burning debris were knocked down, the normal procedure was to root out the deep-seated fire, which remained burning for days, with a heavy deluge gun stream, digging and penetrating to an 8 to 10-foot level, continuing this until final extinguishment.

By analyzing these facts, one can quickly see what an expensive burden this operation was on the fire department

Continued on page 480

Bayonet applicator being used with wetting agent on surface fire. Nozzle has rated discharge of 50 gpm at 100 psi



—*All photos courtesy Motorola Inc.*

Left: Fire stations to be alerted by radio are selected by pressing button on tone generator control panel, located close by dispatcher. **Center:** Turnout tone is transmitted by touching button on transmitter remote-control panel. Note voice recorder on desk top above control unit. **Right:** Fire Dispatcher J. W. Latimeer announces alarm location to selected fire stations as Communications Supervisor, Chief O. D. Miller, looks on

Dallas Radio Alarm System Institutes Economies

Old secondary gong circuit gives way to radio selective signaling; primary circuits retained

By CHIEF C. N. PENN

Dallas, Texas

FAST-GROWING DALLAS recently instituted a selective radio alerting method of turning out its fire companies faster than before, and simultaneously has doubled the growth potential of its metallic alarm circuits.

By retiring the secondary gong circuits in favor of individual station radio alerting, Dallas has salvaged enough overhead wire to pay for the new system. More importantly, we have greatly reduced the cost of extending primary register circuits to fire stations now being added.

Like so many cities, Dallas since 1945 has burst her seams with new residential and commercial developments. From an area of 90 square miles at the end of World War II, the metropolitan fire protection district has grown to 255 square miles today, with no letup in sight.

Expansion problems

Peripheral expansion has called for many new fire stations, a number of which are located 10 or more miles from downtown fire alarm headquarters. Because existing primary and secondary circuits already had reached the maximum loading permitted under National Board of Fire Underwriters standards, we faced the costly task of erecting quadruple metallic lines to the new stations—a loop for the primary circuits and another for the secondary circuits.

Under the able guidance of Chief O. D. Miller, supervisor of communications, a plan was worked out to replace the gong circuits with radio enunciation of fire alarms. Over 100 miles of the de-activated secondary circuits were converted to primary use, greatly reducing the loading on our nearly saturated register circuits. With some skillful reassignment of stations to the new lines, Chief Miller has been able to almost double the growth capacity of the primary circuits, and at the same time eliminate the need for approximately 100 miles of overhead wire, 90 per cent of which is presently being salvaged for future use.

Value of the salvaged overhead copper is estimated at more than $22,000, which is approximately the cost of the new alerting system, installed. In effect, the radio system has paid for itself through savings.

There are reasons other than monetary why the changeover was sanctioned, however. We believe some of the advantages are as follows: (1) Individual station alerting, rather than up to five stations on a secondary circuit; (2) central dispatcher's orders heard by all men at the alerted station immediately, with no verbal relay by the man on watch; (3) eliminates telephone call to station, to announce exact alarm street address; (4) simplifies construction of metallic circuits to future stations; (5) conversion of secondary circuits to primary use doubles the number of stations which can be accommodated on existing lines; (6) provides citywide emergency communications network in case of loss of primary circuits and/or telephones.

By dropping the second metallic circuit to each fire station, we have greatly simplified our wire construction technique. Previously our standard pole installation consisted of a four-point wooden cross-arm to carry the four wires. Now we can abandon the cross-arm and its maintenance in favor of simple one or two-point racks on utility poles. Only half as much copper will be strung to each new station.

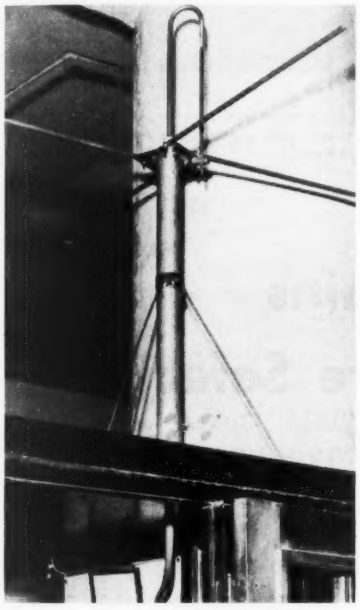
In the downtown area, part of our secondary circuits are carried in cable. These pairs, of course, will remain in place until needed in future growth. The capacity for expansion is already there when we need it.

The great advantage of alerting stations individually, rather than on a

"group" basis, has long been recognized in fire circles. There is a severe psychological problem in sounding the action signal in a station when the men are not needed to respond, particularly at night. Dallas was experiencing unnecessary personnel injuries, as well as sagging morale, by turning out as many as 75 firemen when perhaps only 15 men would actually board the apparatus and respond to an alarm.

Only responding units turn out

Now, with radio alerting, the central dispatcher turns out only the stations needed, by voice command heard simultaneously at the watch desk and over loud speakers in the recreation, sleeping and dining quarters. All men hear the command directly, so there is no time wasted



Installation in central fire station (located in same building as fire alarm headquarters) shows interior antenna above watch house. Other fire stations have exterior antennas

in an oral relay of information by the man standing watch, as had been the case when we depended on telephoned instructions from downtown headquarters, reducing the possibility of error.

Basically, the new radio system is utilized for the "talk-out" function—passing information from fire alarm headquarters to the several stations. Standard Motorola two-way radio is used with the addition of selective signaling equipment to provide the privacy feature.

A pair of precision tones distinctive to each fire station's own receiver are generated in the central headquarters selector panel, and used to modulate the radio carrier wave. Only one receiver will respond to any particular set of tones so that a receiver "hears, tests and ignores" all incoming signals except those containing its assigned tones.

The radio receiver comes to life instantly when the correct sequence of tones trigger its decoder circuit. The effect is this: All receivers remain silently on guard, until the dispatcher presses a selector button on his console. This has the same effect as if he had reached his arm out across town and turned up the volume control of the desired receiver.

When an alarm comes in, the dispatcher chooses the station, or stations, desired by punching out the correct code on the signaling control box. A turnout tone is then transmitted to these selected stations by the touch of another button. This tone (replacing the gong) is heard only throughout the called station houses alerting the men to the voice message coming from the headquarters dispatcher who announces the location and type of call. The dispatcher then keys the information on the primary register circuit which reaches all stations. If there is a necessity to have the original message repeated, the fireman on watch simply lifts the station microphone from the hang-up box and asks the dispatcher for a repeat.

In practice, alarm acknowledgement is given by one officer at each station called out, by means of mobile radio after the vehicles have cleared the building.

Our goal in acquiring the selective signaling equipment was to eliminate unnecessary "channel chatter" in those stations not expected to respond to an alarm call. As installed in Dallas, only the master central station can supply the tone impulses needed to trigger each station's receiver squelch circuit. It is obvious this mode of operation precludes intercommunication between two or more fire houses unless the master station intervenes and supplies the trigger tones. However, once a station has been alerted and the microphone has been lifted from its box, the selective tone sentry is bypassed, and normal party-line communication between all stations is available.

Thus, if some disaster should render the headquarters' base radio station inoperable, control of the system could be assumed by an officer at any other fire station—or even from a radio-equipped vehicle or aircraft.

The station-to-station communication capabilities of our new system were tested thoroughly during the installation phase. We found to our satisfaction that a 25-watt transmitter on the ground floor of central fire station (in same building as headquarters) could be heard clearly at the farthest outlying installations, even when the central antenna was located only 10 feet above the floor and inside a three-story building!

Our new radio system operates on the frequency of 154.13 Mc. The 60-watt base station at headquarters is connected to an omni-directional antenna installed atop a 100-foot tower located on our three-story building, giving well over 150 feet of antenna elevation. For stand-by protection, a second 60-watt base is going into operation at Fair Park, where the antenna will be mounted 325 feet up on an existing broadcast tower.

Twenty-five-watt desk-top transmitter-receiver units, each with its individual tone decoders have been installed at 36 station houses. The audio output of the receivers is fed through 10 to 50-watt public address amplifiers to multiple loudspeakers installed throughout the fire stations. Antennas generally are supported 50 feet or more above ground and are fed with heavy-duty antenna line for maximum efficiency.

Our plans also call for a number of mobile stations to operate on the new alarm network, to be installed in maintenance and other low-priority vehicles. Primary communication between fire vehicles will remain on our low band channel of 46.50 Mc., because the mobile two-way and the alarm functions are dissimilar in nature.

Based on our first few months' experience with the selective alerting system, we are convinced that radio has sufficient advantages to warrant its consideration by departments with "growing pains." □□

By placing microphone in plain clip (A) rather than in tone sentry box (B) continuous communication between stations is possible once unit is activated

—*Photos by H. L. Whitney*

"Pack strap carry" is shown being used in proceeding through a simulated doorway on fire, following removal of the "patient" from a bed. Note the firm crossing of arms by the rescue nurse

Two student nurses show the proper method of using the swing carry for stairways, following a short training period. Coordinated foot work and proper balance are important

How New Hampshire Trains Hospital Personnel In Fire Safety

State and local fire officials join in progressive program designed to safeguard helpless patients

By AUBREY G. ROBINSON,
Fire Marshal
New Hampshire Board of Fire Control

Editor's note: The November 1957 issue of FIRE ENGINEERING reported the successful hospital safety program inaugurated in the city of Canton, Ohio. The following article describes the training program of the State of New Hampshire made available to the various hospitals of that state. High points of the program will be given by personnel who have been responsible for its success, at the forthcoming New England Association of Fire Chiefs Conference at Wentworth-By-The-Sea June 23 to 26.

FOLLOWING NEWSWORTHY FIRES in hospitals, there usually has been a controversy concerning the causes. From the many reports digested in the New Hampshire Fire Marshal's office it was felt that the proper time for down-to-earth fire safety education in New Hampshire's thirty-one hospitals was before the fire occurred, *not* after. Therefore Deputy Marshal Herbert L. Whitney was assigned to carry out a fire safety program with the hospitals which began in 1955.

Where to start was a problem; of 232 fire departments in the State only 34 were paid, the remaining 198 being volunteers. The problem of volunteer chiefs being able to work into a program of this sort also developed since many of these men worked at separate trades during the day.

A six month program was laid out, and shown to the cities of Concord, Manchester, Claremont, and the town of Goffstown. Their response was more than favorable. In fact, the question was "How soon can we start?" Each of the chiefs not only designated a man to assist, but offered the necessary equipment to be used at any time.

The next step was to go over the program with hospital administrators in the mentioned cities and town. Once again the response was gratifying, and the program was immediately made ready for action.

HOSPITAL FIRE DRILL and EVACUATION PROGRAM OUTLINE

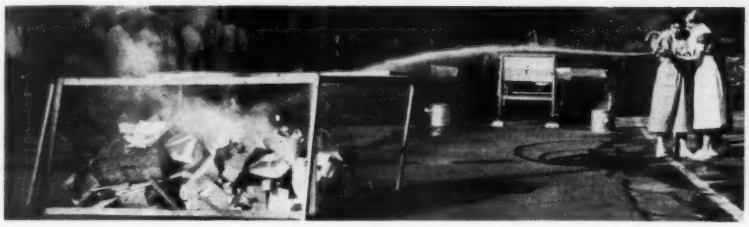
1st MONTH

INTRODUCTION

a. Reason for Drill Program.
b. Read and fully discuss drill sheet.
c. Cite examples of Hospital fires as to why they were or were not disastrous.
d. Cite records of inspections in Hospitals.
   1. Laundry chutes.
   2. Waste barrels with no covers.
   3. Doors used for exits blocked or locked.
   4. Good housekeeping in general.
   5. Duty of all those connected with Hospital as to Fire Prevention.
e. Set up Fire Safety Committee.

2nd MONTH

a. Movie "Fire in YOUR HOSPITAL." CD film.



Left upper: A specialized bed "roll" is shown being made up by nurses in preparation for moving a "patient" to the floor. The patient is then dragged on "roll" to a safe area. **Left lower:** Spectators watch as nurses operate a 1½-inch hose on a rubbish fire. Proper stance is important in this operation in order to cope with line pressure. **Right:** Nurses are taught to select the right type of extinguisher for its task—and its proper use on test fires in containers

b. Discussion on film and how it affects their Hospital.
c. Questions on drills and evacuation.
d. Good housekeeping methods.

3rd MONTH

a. Fire extinguisher program.
1. Description and use of types of extinguishers.
b. Demonstrate ingredients of extinguishers.
1. Soda and acid.
2. Foam.
3. CO_2.
4. Dry chemical.
5. Carbon tetrachloride.
c. Charts for personnel on extinguishers.
d. Film "Fire Fighting for Householders."
e. Questions on drill and evacuation.

4th MONTH

a. Fire alarm box use.
b. Movie "Approved by the Underwriters."
c. Drill and evacuation sheet.

5th MONTH

a. Fire demonstration with use of extinguishers.
b. Drill.

6th MONTH

a. Drill and Evacuation.

Progress was slow at first due to a few obstacles which had to be overcome, such as:

1. Not disrupting the regular hospital daily schedule; 2. Some of the personnel being trained were a little timid with extinguishers, especially carbon dioxide; 3. Setting up a Fire Bill which was complete, short and to the point, as well as fitting it to the particular hospital in which it was to be used.

One of the interesting problems was the lack of knowledge in the operation of a regulation fire alarm box. The Gamewell Company loaned the Fire Marshal's office a complete master box setup, portable enough to be taken to the classroom. It was surprising, not only to see the interest, but to hear the personnel tell of where fire alarm boxes were located in their towns and cities, and if there were none, how they had learned to call the Fire Department after receiving classroom instruction.

The program was by then well under way. Our main objective was to give all personnel a knowledge of first aid fire fighting equipment, confidence in the use of it, and an evacuation plan for emergency use.

Training pays off

The entire staff of the Concord Hospital is part of the Fire Control Program, but since the introduction of a Safety Committee in November 1954 no one really knew if practice drills, when replaced by an actual fire emergency, would pay off. Nothing in the program had been left to chance and our standards were set for absolute perfection.

On the morning of December 29, 1955 all questions were answered. The results of months of supervised demonstration and practice were put into actual operation.

Employee orientation was put to the acid test upon hearing the code *"Dr. Red"* over the speaker system! What happened after the alert was reported, was summarized to the members of the Safety Committee at a special inquiry later that same day.

The supervisor making ward rounds was summoned by a first year student to assist her in moving a bed patient to an upright position. To comply with this request the supervisor called on a new orderly to view the procedure as part of his orientation in basic nursing care.

When they arrived at bedside (a multiple unit) the supervisor detected smoke and upon investigation discovered a 100 watt goose neck lamp turned down onto the corner of a mattress. Immediately the lamp was removed and disconnected. A basinful of water at bedside was applied to the mattress, followed by use of a soda-acid fire extinguisher.

The orderly was instructed to lift the patient onto a stretcher and at this time the charge nurse, who had no knowledge of the fire, appeared. The supervisor repeated "Dr. Red" to her and immediately she went to the 'phone and reported the warning to the operator, who in turn notified the fire department. The entire ward was then secured.

Members of the Safety Committee upon hearing the alert proceeded to the area. The mattress was carried out of doors and another extinguisher used on it; it was then moved away from the building as a precaution. Approximately one minute after notifying the switchboard, eight additional employees were in the area with extinguishers and blankets.

When the fire department arrived the situation was under control. What might have proved a disaster had been prevented by quick thinking and habit routine of a sound training program. On the morning of December 30, 1955 a report was handed to Deputy Marshal Whitney which spoke for itself; the hospital and the fire service knew they were on the right track.

Demand for instruction

As it is so often true, a program in fire prevention can continue over a period of time without the public having

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Chief Sylvester E. Jennings, right, and Assistant Chief F. Gleason, inspector of combustibles, prepare assignment details for firemen who will conduct radio field inspections

During Inspection of garment manufacturing plant, Fire Fighter David Shields and Pumper Engineer Michael Iovino, Bridgeport Fire Department check egress facilities with official of the firm

Bridgeport Steps Up Radio Field Inspections

RECENT fatal and costly fires in hazardous occupancies throughout the nation have focussed attention on the importance of what are aptly termed radio apparatus field inspections.

Among the cities which have demonstrated the value of such inspections over a period of time, is Bridgeport, Conn. According to reports, the fire department's mobile radio field inspections have proven a complete success in uncovering fire law violations and in promoting fire prevention. Since the program was inaugurated by Fire Chief Sylvester Jennings and Assistant Chief John F. Gleason, inspector of combustibles, the efforts have steadily been broadened and intensified.

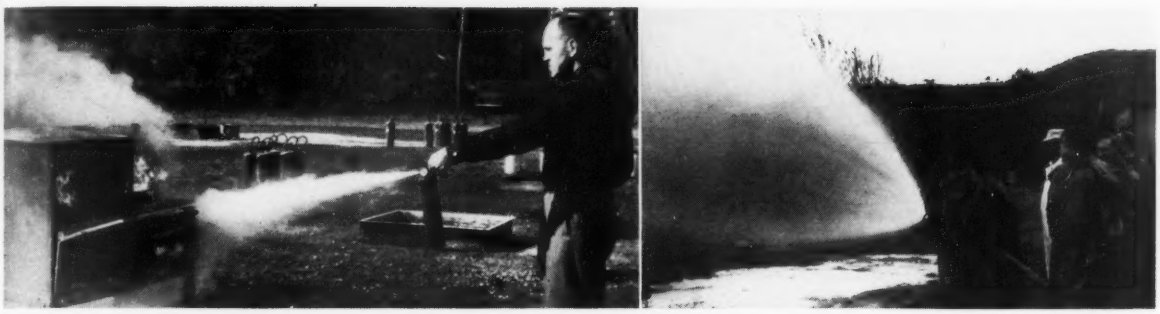
In its general concept the program closely parallels those of other cities which rely upon modern fire department radio as the foundation for the operations. In the Bridgeport program, various fire companies make building-to-building inspections of their assigned areas while still on duty. Each company out on inspection remains in service with radio-equipped apparatus and is required to respond to alarms received during the period of inspection tour. A siren on the parked apparatus alerts inspecting personnel in nearby buildings, and these men speedily return to the fire vehicle and respond to the fire if due to "roll" without loss of time.

Bridgeport fire officials praise the use of three-way mobile radio which transmits alarms to apparatus in the field and provides communication between headquarters and personnel out of quarters on inspection. In order to maintain radio contact with all inspecting units, operators in the bureau of fire alarms transmit test signals every 15 minutes over the department's shortwave radio system.

Reports on all hazardous conditions are filed by firemen with their superiors. Where necessary a follow-up investigation is made by fire prevention bureau inspectors to make certain the violation is corrected. □□

Tom Magner

In fire alarm bureau at Bridgeport, Conn., Operators Fred Dickneider, left, and Gerald Pfeifer, maintain radio contact with all inspecting units in the field at intervals of 15 minutes



Left: Student extinguishing fire in kitchen stove. Device being used is new portable dry chemical extinguisher weighing 4½ pounds. **Right:** Each student is given an opportunity to handle many different water and foam nozzles

American LaFrance Trains Industrial Fire Fighters

"THERE IS NO SUBSTITUTE for experience!"—and experience is provided in abundance at the American LaFrance Industrial Fire School, held annually from April through October at the company's experimental station and Proving Grounds in Elmira, N. Y. Fire protection, fire fighting, and fire prevention, each of these problems is considered in detail, on the six acres and more of plant facilities devoted to design, testing, and study of all types of fire fighting equipment.

For many years the company has conducted a fire school for its own personnel in addition to staging demonstrations of various extinguishing methods before interested groups. Currently, industrial firms from many parts of the country are sending their employees to the school for training under the guidance of experts in the science of fire fighting. Many of these men who attend the school have had years of experience dealing with fire hazards and fire control. Included among the more recent attendees at the three-day sessions were industrial fire protection engineers, insurance engineers, municipal fire officers and armed forces personnel.

School instructors, who are company employees, are well-seasoned through comprehensive training before being permitted to conduct classes. Their knowledge and skill as experts are thoroughly tested according to company safety standards. Safety in attitude and technique is continually stressed to provide protection for students engaged in fighting fires during the program. It is further hoped that this concern for safety will be retained by every student as he applies his newly acquired knowledge and skill in everyday practical situations on his "home grounds."

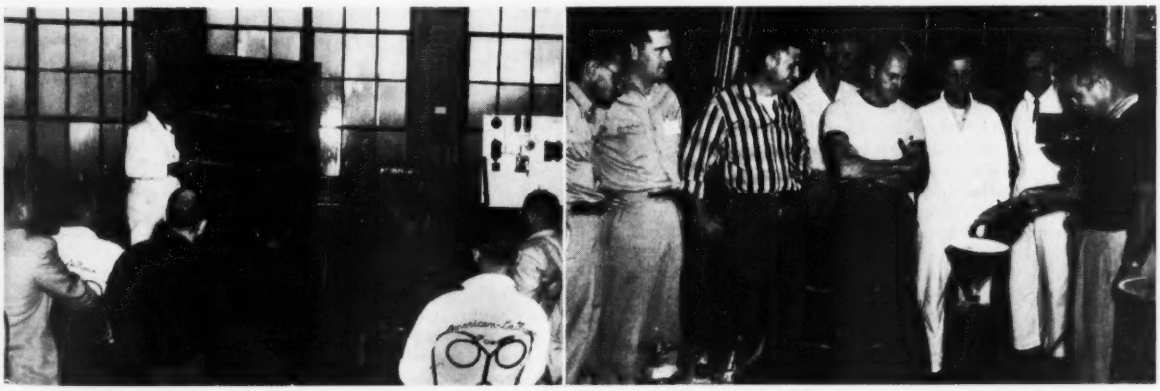
Each fire school, limited to 25 persons to insure personal attention, is set up on a three day basis—held Tuesday, Wednesday, and Thursday of a scheduled week. On the first day students are given a guided tour of the plant to observe manufacture and testing of portable fire extinguishers and motor fire apparatus. Following this, company personnel demonstrate on actual fires, various types of portable extinguishers including: pressurized water, carbon dioxide, and dry chemical. The latest type nozzles are used in the demonstrations.

During the second day, students are themselves permitted to handle portable equipment and to extinguish fires similar to those in the demonstrations of the previous day. Students are also given classroom instruction and actively participate in discussions over mock-ups of automatic carbon dioxide and foam systems.

Each student is taught the proper inspection, recharging and maintenance of hand portable, wheeled, and stationary dry chemical extinguishers. Trainees are encouraged to recharge their own equipment to insure thorough understanding of proper procedures.

On the third day of training, students discuss foam liquids and equipment used in its application: they observe demonstration of: 1) An automatic carbon dioxide system extinguishing a fire in a 1600-cubic-foot room by total flooding method; 2) automatically-operated foam system extinguishing a fire in a simulated dip tank and drain board risk; 3) a "Blabbermouth" nozzle that produces 4500 gallons of mechanical foam per minute; and 4) a grand finale—extinguishment of a fire in a 491-square-foot oil storage tank (25 feet in diameter) by a fixed mechanical foam system.

The balance of the final day is spent by members of the class in fighting fires peculiar to their own industries. All graduates receive certificates. □□



Left: Classroom instruction and discussion over mock-ups of actuating systems used in automatic CO_2 and foam installations. Here the how's and why's of fire-fighting agents and devices are explained. **Right:** Students at the LaFrance fire school are taught proper recharging and maintenance of all types of extinguishers

—Photo by Misiaszek Studio

Portable canvas reservoir being used during demonstration. It has a capacity of 3,000 gallons and can be erected in two or three minutes

Getting More Water to the Rural Fire

How the use of large-diameter hose, portable water reservoirs and tankers, can increase fire fighting potential at country fires

By CHIEF A. MORRISON ENNIS
Mortlake Fire Department, Brooklyn, Conn.

The author of the following article is an active fire chief of an area embracing several volunteer fire departments. He has devoted much time and thought to the study of water supply problems inherent to rural fire protection.

His opinions on the use of large diameter hose, portable pumps, tankers and portable suction reservoirs are based upon first-hand experience with such facilities in actual fire fighting, as well as in experimental field operations.

ONE OF THE MOST IMPORTANT and vexatious problems facing the rural fire fighter today is that of securing adequate water supplies to further his attack on fires in areas devoid of municipal or other water sources.

The problem has been accelerated in recent years by the vast movement of business and industry and families into districts which, at best, had but limited water supplies and where provision for that precious essential has since received little consideration.

Although the fire service has been able to advance its own cause and its operations by the addition of such improvements as radio and telephone alerting, central dispatching, the use of water fog, wet water and a host of other equivalents, progress has not kept pace in securing for itself, this most essential of all extinguishing mediums—water.

The availability of sufficient water at the scene, unless the fire is located near some natural supply, is the result of careful planning as to apparatus, equipment and response. Study and application of some of the basic rules of the movement of water in lines and the performance of pumps can also assist in solving the problem.

Use of large diameter hose

Many of us tend to overlook the fact that by doubling the diameter of a conductor, we actually increase its capacity by four; and that by cutting the velocity of water in a line in half, it requires approximately one-quarter of the original pressure to move it.

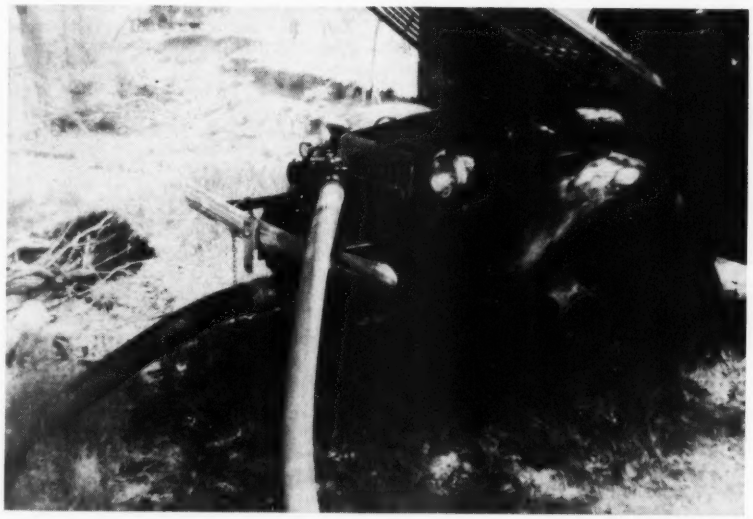
There seems to be a tendency to try to overcome the problem of inadequate water supply by simply increasing pump pressure. The fallacy of this procedure lies in the fact that with a 500-gpm Class B pump—and this is a type common in rural areas—if we increase the operating pressure from 120 psi to 200 psi, we cut the output from 500 gpm to 250 gpm, and if we add another 50 pounds pressure, we cut it further to 167 gpm. In planning any water supply operation, one must keep in mind the pump's ability to supply at the pressure required.

Let us consider the size of the conductor we use for a supply line. Assume that we need 300 gpm as an amount which will permit us to operate the equivalent of an Underwriter's stream with some reserve. In 2½-inch hose, 100 psi will move this amount of water about 500 feet. If we use 3-inch hose we find that 100 psi at the pump will move 300 gpm a distance of about 1,200 feet. But if we employ 3½-inch hose we find that 100 psi pump pressure will move the same 300 gpm a distance of well over 2,000 feet. The latter distance is more in line with those frequently encountered at fires in rural areas. If we use the procedure of the pump at the water source supplying the pumper at the fire-ground and then let that apparatus apply the needed nozzle pressures, we find that we do not need extremely high-pressure pumps or heavy hose. This makes it possible to effectively use the smaller type of pump commonly found in rural departments, and by slightly increasing the hose size, just about double the amount of water may be obtained on long stretches.

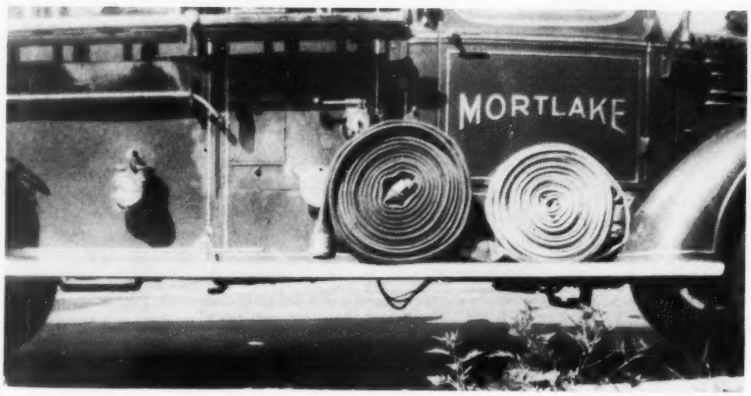
Another very practical use of large-diameter hose is in conjunction with portable pumps. These pumps are limited in their horsepower and any procedure which will reduce pressure requirements will greatly increase their effectiveness. Many departments use portables to move water from inaccessible sources to the pumper which then applies the pressure and delivers the water to the point where it will be used. Tests conducted with a typical portable pump which has a maximum flow of 250 gpm at 10 psi, showed that it was possible to move 246 gallons

—*Photo by Vernon T. Wetherell*

Typical tanker style advocated by author. Capacity is 1,450 gallons and it can be loaded in five minutes; an additional feature is the excellent weight distribution



Front-mount pump taking suction and discharging through 3½-inch hose to the fire scene. Reducing couplings (3-inch to 2½-inch) permit direct connection to discharge gate without use of adapters



Comparison of standard 50-foot coil of 2½-inch double jacket hose (left) with 100-foot coil of lightweight 3½-inch hose. The large bore hose is fitted with common five-piece 3-inch to 2½-inch reducing couplings and weighs 60 pounds

per minute a distance of 500 feet on the level with 3½-inch hose. The pump operated at 12 psi as registered on the gage. This indicates that the large-diameter hose permitted it to operate at very near its maximum efficiency.

Tank piping important

The area of the conductor plays an important part in still another application. This is in the suction line between the tank and pump on a tanker. To many people, a tanker is nothing more than a fire truck with a large booster tank. Nothing could be further from the truth!

A booster tank is designed to supply small lines for use in small fires or mop-up operations. A tanker's purpose is to be the main source of water supply; its efficiency is directly associated with its speed and safety, combined with its ability to load and unload quickly. All too often we see a large, adequate chassis with a large pump and tank, but the suction line between the two is so small that much of its value as a supply tanker is lost because it can't unload quickly.

Equipment of this type should be designed with suction lines large enough to enable the truck to discharge at the rate of at least 250 gpm and even higher. A 2½-inch gated inlet to the tank should be provided with an adequate overflow vent to allow maximum flow from a line of this size without causing a pressure rise in the tank. This arrangement will serve in at least two ways: First, it will permit the truck to be filled quickly if it is working in a shuttle; and second, it can work at the scene of the fire with a supply line from another tanker or a hose line connected directly to it. The tank will then act as a reservoir and tend to even out inequalities in the supply.

There are tankers of the type described operating in the field and doing a good job. In the most successful of these units, thought is given not only to the adequacy of the chassis from a safety and performance standpoint, but also to keeping a short compact design with a low center of gravity.

With the more recent elimination of many of the sources of complaint about front-end pumps, careful consideration must be given to the pump. Is the installation of a large midship pump worth the amount of water-carrying capacity it will displace? In many instances this can mean 300 to 400 gallons located in the best weight-carrying area of the vehicle. It is a problem of functional versus traditional design which can only be decided on the basis of need in the area.

Portable suction reservoirs

Another principle well worth considering in connection with water supply problems is the use of an open tank. When an open tank is used to pump from, the main problem is to balance nozzle output with supply, and all the problems of excess pressure, collapsed hose and interrupted supply are practically eliminated. This holds true whether the tank is a truck tank, a portable tank or a suction reservoir. The larger the tank, the better the results; this is also so whether the water is delivered by hose line or truck shuttle.

Recently the use of suction reservoirs or portable tanks has received considerable attention in this country. The idea is not new; the British Fire Service made considerable use of similar tanks during the last war and still does in areas where they are needed. One type of tank now being used in this country is a British importation which can be stowed in a space of 4 or 5 cubic feet in an ordinary compartment on a pumper or tanker. It is easily carried and erected by one man.

Continued on page 472

FALSE ALARMS

"All right, so you raised the 35-foot extension ladder all by yourself—what do you want me to do, commission you in the field?"

Almost But Not Quite!

It had been a tough and trying day for the telephone operators at fire alarm headquarters, trying to clear up a 4-alarm mixup on the board, when the little red lamp lit up.

Under the circumstances, Joe Blow perhaps wasn't as polite as the R & R called for.

"Well, what is it?" he snapped.

"Is this the city gas works?" asked a woman's soft voice?

"No madam," barked the harassed operator "This is the fire department headquarters.

"Ah," came from the lady's end in the dulcet tones, "I didn't miss it so very far, after all, did I?"

Daftnitions

Budget—Something you worry about spending before you spend it as well as afterwards.

Toastmaster—A man who eats a meal he doesn't want so he can get up and tell a lot of stories he doesn't remember to people who have already heard them.

Bored wife to husband in nightery: "Why can't you be like some other husbands and never take me any place?"

He: "Since I met you I can't eat, I can't sleep, I can't drink."
She (shyly): "Why not?"
He: "I'm broke!"

Jill had money:
Jack had nil.
Jill married Jack,
So Jack had Jill.
Jill went to Reno—
Now she's back.
Jack has nothing,
But Jill has jack.

Life Insurance Salesman: "How about a straight life policy?"

Kinkchaser: "Well, I like to step out once in awhile."

Girl to escort: "Let's have a cocktail or two first—I never eat on an empty stomach!"

Mrs. Green: "How children's tastes do change."

Mrs. Brown: "Yes indeed; when my two were small, Johnny loved firemen and Mary was crazy about brightly painted dolls. Now, Mary is crazy about firemen and Johnny runs after every painted doll he sees."

Young men of today respect old age only when it comes in bottles.

Kinkchaser says his pal read so much about the bad effects of drinking, he decided to give up reading.

He: "I suppose you dance?"
She: "I love to."
He: "Fine! That's better than dancing."

New Kind of Ashes

From our New England contrib' comes this example of fire news reporting, taken out of a New Hampshire paper.

"Miller's ice house caught fire, and though a determined effort was made to save the building from flames, it burned to the ground. With it 20,000 pounds of ice were reduced to ashes."

Concerned Instructor: "Doakes, the chief and I are worried about your school work. Why is it you are always at the bottom of your class?"

Confident Probie: "Oh, there's no sense worrying about that—you teach the same thing at both ends!"

Exasperated Chief: "Why didn't you deliver that message as instructed?"

Embarrassed Aide: "I did the best I could, Chief!"

Chief: "The best you could! If I had known I was sending a stupid idiot, I would have gone myself!"

Before, During and After

Almost every speaker has three speeches. The first is what he has written down. The second is what he actually delivers. The third is what he wishes he had said, after it is all over.

The company pessimist sez: "Christmas is the season of guided mistletoe."

Sign posted over the entrance of a certain fire college: WHAT YOU DON'T KNOW ABOUT FIREMANSHIP WON'T HURT YOU—IT WILL KILL YOU!

Light Duty

Joe: "So you been in the hospital. Did they put stitches in you?

Moe: "Naw, I just pulled myself together."

If you're troubled by the noise in your car—let her drive!

Mrs. Peck: "Why do you always go out in the garden when I sing? Don't you like to hear me?"

Hen Peck: "It isn't that, my dear; it's just that I want the neighbors to see I'm not beating you."

Proby: "Girlie, I've got a confession to make. I'm a married man."

Girlie: "Gawd! You had me frightened. I thought you were going to say this car didn't belong to you!" □□

Let's talk frankly about mildew

Fire hose manufacturers have various "treatments" which they apply to their hose to render it mildew resistant.

So does Eureka . . . and we believe that ours is second to none!

BUT our more than 80 years' experience in the manufacture of the highest-quality municipal fire hose has convinced us that the *only sure way to prevent mildew* in fire hose is to *dry it thoroughly* every time it gets wet. Don't overlook even a light shower or stray spray at a fire which may dampen the unused hose in the truck bed.

It is just as important to keep hose *dry* as it is to keep it *clean*. "Treatment" doesn't take the place of good care in prolonging hose life. At best, it provides mildew *resistance*, not prevention! Such treatment may not *wash out*, but normal abrasion might *wear through* it. So play safe! KEEP YOUR HOSE DRY!

We sincerely hope that this frank word of caution will substitute for costly experience in many fire departments . . . particularly in financially-pressed volunteer companies! Naturally we'll be happy to hear from you if you have anything to add on this subject.

Note how criss-crossing vertical cords tie all plies into a single jacket.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Rubber-Lined Fire Hose

1 Market Street • Passaic, New Jersey *Division of* **United States Rubber**

MORE WATER TO RURAL FIRE

Continued from page 469

This canvas tank is made in two sizes —3,000 and 6,000 gallons. There are also several types of varying capacities made in this country which have been used with success.

Reservoirs of this type have the advantage of permitting incoming tankers to discharge their water upon arrival, either singly or in numbers without waiting, and to proceed immediately for more water. This affords maximum use of the tankers and makes it possible for a pumper to be used efficiently to supply the fire lines. Further, by using a large-capacity reservoir, lines may be operated for some time if tankers do not return immediately with water. This was the primary purpose for which the canvas tanks were provided in the begnning, but subsequent experience has proved they are valuable in relaying as well.

There is one point which is frequently overlooked when comparing reservoir operations of this type with a relay. When a tanker arrives on the scene it is ready to go to work immediately, as is each additional tanker as it arrives. However, in a relay, each truck must lay its hose, couple up suction and charge a long line. In the time it takes to do this, the fire most likely will make considerable progress and the stream may not be as effective as a lesser one would have been at the outset. Furthermore, in a relay, failure of just one length of hose—which is not an uncommon occurrence—or the failure of any one piece of equipment will make the entire relay 100 per cent ineffective. But in a tank shuttle, if one piece of equipment fails, the efficiency is cut only by the amount that the particular piece represents in the whole operation.

An excellent example of the use of reservoirs in relay work was provided at a demonstration held at the U. S. Submarine Base in New London, Conn., in May of 1957 (FIRE ENGINEERING October 1957). In this relay 15 engines, each pumping through 800 feet of 2½-inch hose, supplied slightly more than 300 gpm a distance of more than two miles; the water was discharged through an open butt into a 3,000-gallon canvas tank. A pumper at the demonstration fire scene drafted from the reservoir and supplied the proper nozzle pressure.

Each pumper in the relay operated at a predetermined maximum pressure and when it was necessary to shut down the nozzle line to change tips, or for any other reason, 300 gpm continued to flow into the reservoir and no complications were injected into the relay.

It was also possible to discharge amounts considerably in excess of 300 gpm for limited periods with this arrangement. The fact that not a single length of hose burst (with 240 lengths in use for over an hour) is in itself no small feat for an operation of this magnitude.

There is at least one other important use to which these large portable tanks can be put and that is as standby water supply for temporary hazards or during mop-up after a fire. By placing such a reservoir of water near the scene of a fire, it is possible to pick up and return to service most of the hose and equipment which has been used. At the same time any rekindle would be comparatively easy to cope with when a large supply of water is readily available.

While most of the equipment mentioned has originated in England or other European countries prior to, or during World War II, there is no reason to believe that all the items cannot be made here and most likely improved upon. What is necessary is a better understanding of the requirements and possibilities for supplying water in rural areas. Once this is done, there will be no problem in interesting manufacturers to produce the equipment.

Effective mutual aid a must

Even with the suggested innovations, there is the matter of mutual aid organization which is a vital necessity if operations of this kind are to be successful. In some areas it now exists; in others it must be developed.

In northeastern Connecticut, which is one area where mutual aid and central dispatching is highly organized, it is common practice to send an extra tanker on any structural fire alarm and follow the initial response with a tanker call which can put at least 5,000 gallons on wheels at the fire scene.

In these days manpower is a problem, and the ease with which a tanker arrangement can be put back in service becomes an important factor which cannot be overlooked when compared to picking up hose, cleaning and drying, and packing it back on the apparatus. A tanker need only refill and respond to another call, but a pumper with an empty hose body is not too valuable a piece to send to such a situation.

It is not a question of whether it is possible to do these things. The question is, are we willing to do the work and planning on the department and area level to assure success in moving effective amounts of water to the fireground!

Rockford Youth Admits Arson

A 16-year-old Rockford, Ill., boy has admitted setting two fires at St. James Pro-cathedral (FIRE ENGINEERING, May 1958) as well as two residence fires.

The youth was apprehended by police on May 3 in the act of breaking and entering a residence in the same neighborhood where the four fires occurred. Questioned by fire and police officials, he admitted responsibility and re-enacted the setting of the fires at the various scenes.

According to Fire Chief Wayne E. Swanson, the church fire, which caused $26,000 damage, was started by the boy holding a match at either end of a small stage curtain in the basement of the cathedral.

After signing statements admitting his responsibility, the boy was taken to the county jail.

Annual Reports

Williamsburg, Va.: Fire Marshal Elliot W. Jayne reports 156 fires caused a loss of $4,960 during 1957. Total losses for the city, Bruton and Jamestown districts amounted to $7,457, a decrease of approximately $1,800 over 1956.

Everett, Wash.: Chief F. F. Schroeder reports losses of $60,165 for 1957; a decrease of $7,321 over the previous year. He again recommended purchase of a new aerial ladder and construction of a drill school for training firemen.

Honolulu, T. H.: Chief M. C. Pate reports losses of $1,130,187 for 1957, more than double those of 1956. He urges a 10-year apparatus replacement program of at least two pieces a year; the creation of six new companies and station houses; the replacement of three stations, and the construction of a drill tower.

Charlotte, N. C.: Chief Donald S. Charles reports losses of $44,214 for 1957, an increase of $6,000 over 1956. He recommended the suspended apparatus replacement program be re-established.

Melbourne, Australia: Chief Officer L. P. Whitehead, M.I. Fire E., J.P. reports an increase of alarms to 8,668 for the fiscal year 1956-57, more than 2,300 over the previous period. The brigade received 2,298 malicious street alarms and 684 hoax telephone calls during the year.

Chief Officer Whitehead notified the Melbourne Fire Brigades Board of his intention to retire on January 31, 1958 after more than 44 years of service. □□

Los Angeles County Reports Progress

The report of Chief Engineer Keith E. Klinger, Los Angeles County Fire Department for the fiscal year 1956-57 details the operation of the fire fighting services as well as the forestry division which he heads as forester and fire warden. The profusely illustrated, three-color fully documented report, details operations of all the various bureaus and divisions; in addition it is an excellent medium for promoting public relations.

Fire losses totaled $5,878,851; of this amount $1,231,729 was caused by the Malibu fires of December 1956, in which more than 28,440 acres of watershed land was burned over.

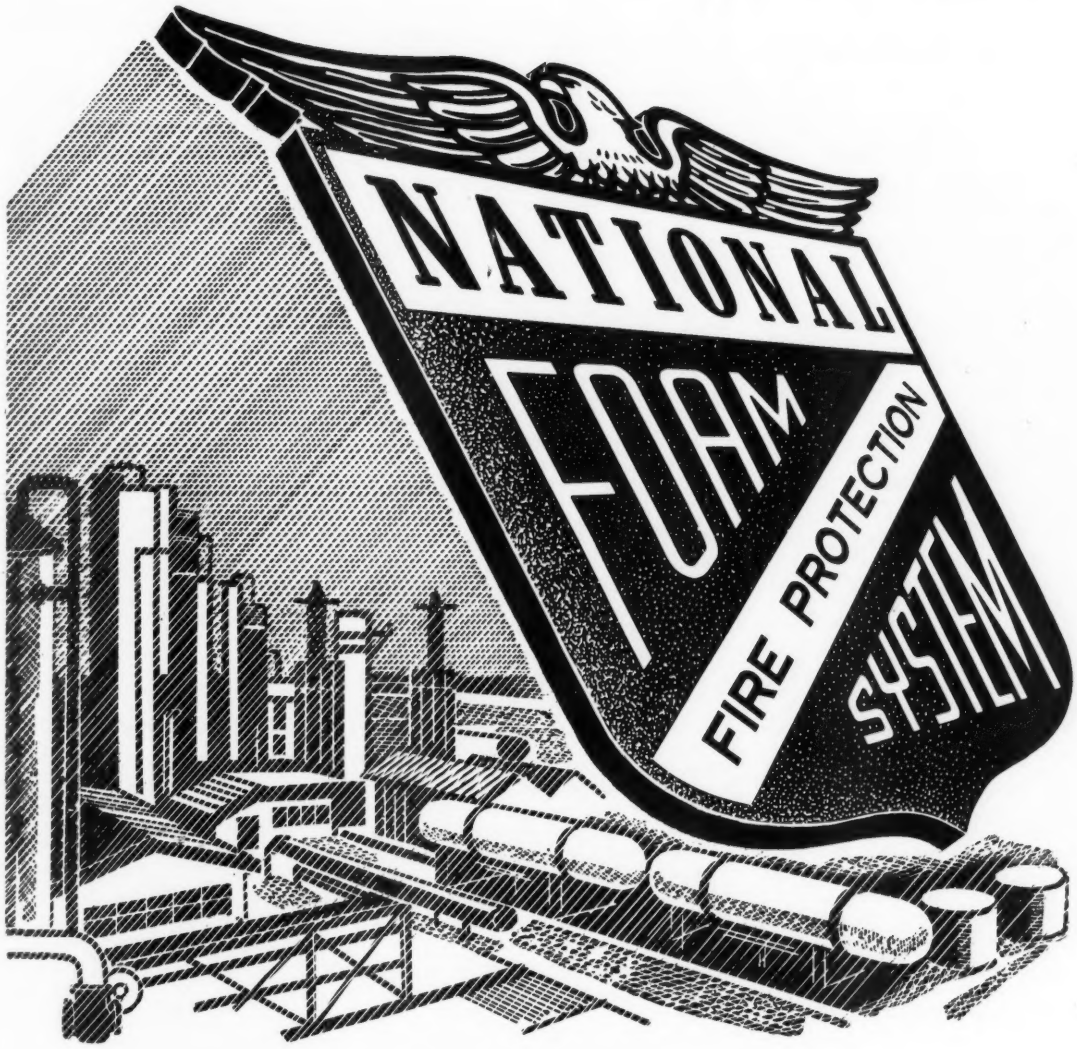
During the period 14 new fire stations were under construction or in the planning stage. Buildings completed and occupied included three replacement stations, one new station and an addition to fire headquarters.

New apparatus placed in service included six engines, two forestry engines, one aerial ladder and two rescue units.

New York Exam Pending

New York City has tentatively scheduled an examination for the position of fireman to be held in December 1958. At present there are over 700 vacancies in the authorized strength of the New York Fire Department.

During the past several months nearly 700 firemen have retired and it is expected this figure will exceed 1,000 by the end of the year. The current civil service list contains approximately 1,500 names.



Shielding your plant from fire . . .

through developing new AER-O-FOAM formulas

to meet changing needs

Thanks to technical advances in foam formulations, control of fire in flammable liquids is far more efficient than it used to be.

In many of these advances, National Foam has led the way. Available today are AER-O-FOAM liquids that produce twice the volume of fire-fighting foam . . . while resisting freezing at far lower temperatures.

In the future, as in the past, look to National Foam for fire-fighting products that meet the *current* needs of safety engineers!

Protein chemistry *forms the background of new developments in foam liquid formulation.*

NATIONAL FOAM System, Inc.

West Chester, Pa.

WHAT'S NEW

Among the Manufacturers

- products
- processes
- personalities

Globe "Short Snorter" Mask

A lightweight, air-oxygen mask, is one of the latest additions to the protective breathing equipment manufactured by Globe Industries, Inc., 125 Sunrise Place, Dayton, Ohio.

The "Short Snorter" is said to give complete respiratory protection in any toxic or oxygen-deficient atmosphere for a period of 10 to 15 minutes and can be put into operation in seconds. It weighs 15 pounds.

Fire-End in New Offices

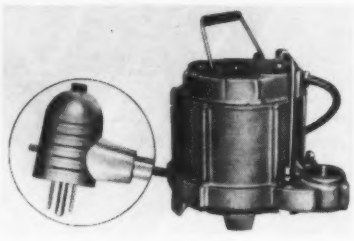
Anthony J. Sposato, manager, Fire-End Products, has announced the company is now in its new location at 656 Gerard Ave., New York 51, N. Y. It was formerly at 19-21 Beekman Street.

Dermoplast Burn Spray

Mallon, Division of Doho, 100 Varick St., New York 13, N. Y., has introduced an aerosol spray for burns called "Dermoplast." It is claimed the use of the spray eliminates pain and minimizes shock.

Kenco Submersible Pump

The Kenco Pump Division, American Crucible Products Co., 1305 Oberlin Avenue, Lorain, Ohio, has introduced an electrically operated submersible pump for use in dewatering basements, etc., which weighs 43 pounds.



The cast-bronze pump is said to have a capacity of 3,300 gph at a 10-foot discharge head and is powered by a ½-hp, 60-cycle, AC motor contained in a sealed, oil-filled housing.

Maximum current required is 7 amps and the company states that any 2500-watt portable generator will provide sufficient power.

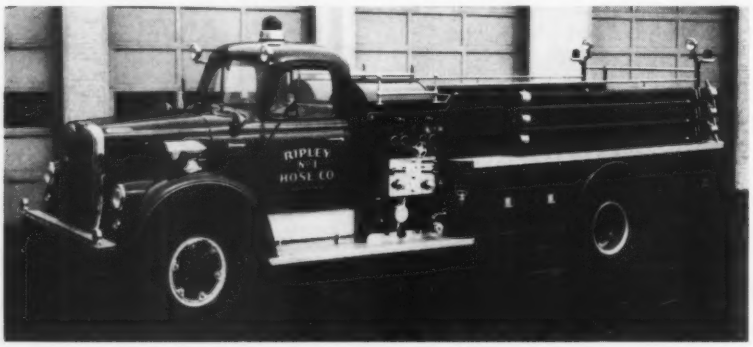
Young Pumper Offers New Design Features

Young Fire Equipment Corp., 1548 William at Bailey, Buffalo 6, N. Y., has recently delivered to the Ripley, N. Y., Fire Department a new pumper which is said to incorporate some unique apparatus engineering features.

It is built on an International Harvester chassis powered by a 257-bhp V-8 engine and equipped with Select-O-Matic transmission. The latter is a torque converter-five speed synchromesh transmission combination with finger-tip clutch control.

It mounts two pumps. A single-stage "Hale Super Single" volume pump is said to require only advancement of the throttle once primed; there is no transfer valve. The second pump is a Hale 2CBP for high pressure booster streams up to 1,000 psi operated from a power take-off.

According to the manufacturer the new pumper has excellent road power and pumping flexibility.



New G-E Portable Transceiver

General Electric Co. has entered the hand-carried two-way radio market with a transistorized portable transmitter-receiver.

Designed for use in fire, police, civil defense and military applications, it features a fully transistorized tubeless receiver which is claimed to drain less power than a household flashlight.

Capable of two-frequency operation, the units are available in the 25-54 mc and the 144-174 mc bands.

For further information contact the Communications Products Department, Electronics Park, Syracuse, N. Y.

New Buffalo Extinguishers

Buffalo Fire Appliance Corp., 221 Crane Street, Dayton 3, Ohio, has introduced 20 and 30-pound heavy-duty model dry chemical extinguishers. Both units have been tested and approved by Factory Mutual and Underwriters' Laboratories, each receiving the U. L. rating of 20-B, C.

Spun Tubular Fire Hose Announced by Fabric

The Fabric Fire Hose Co., Sandy Hook, Conn., is now in production of a newly developed fire hose called "Unispun." The hose features spun tubular construction which is said to preserve the maximum strength of the materials, re-

Specify AKRON

"AMERICA'S BEST FIRE EQUIPMENT"

TWO INLET MULTIVERSAL

Light weight — 55 lbs. Handwheel adjustment. Perfectly balanced. Relieves manpower for other duties. Low friction loss. Akron stream shapers for non-feathering stream. Can be used with FOG-HOG for complete versatility. Style #491.

"FOG-HOG" NOZZLE

DELUGE

With all-round indicator for preselection of stream. Tremendous gallonage and projection. Use on ladder pipes, deluge guns, deck pipes. All degrees of fog, straight stream or shut-off instantly available. Bind-free operation at all pressures. ROCKER LUG—available in 500, 1000, 2500.

"P.D.Q." NOZZLE

HOSE LINE

Adjustable through all angles of solid fog and straight stream. Akron quality ball shut-off. Guaranteed gallonage. Positive stream positioning indicators. Swiveling "ROCKER LUG" base — handle is always up. Corrugated no-slip grip. 1", 1½" and 2½" sizes.

"FORGEX" COUPLINGS

Drop-forged for strength. Light weight — perfect companion for light weight hose. "ROCKER LUG" — Higbee Indicators. Tapered hose bowl — stays on hose under all pressures. Unconditionally guaranteed to give complete satisfaction. Style #88

SIAMESE

Two and one-half inch FULL FLOW Ball-Valve Siamese. One 2½" female inlet . . . two 1½" male outlets. Solid red brass casting. Operating pressures to 500 lbs. The industry's best made and most widely used Siamese. Style #481.

UNIVERSAL THREAD ADAPTER

Instantaneous connection to all thread sizes. Your own thread on male end. Moveable bronze jaws provide adjustable female. Push handles together and watertight connection is made. Light weight — 7 lbs. No wrenches needed. Style #575.

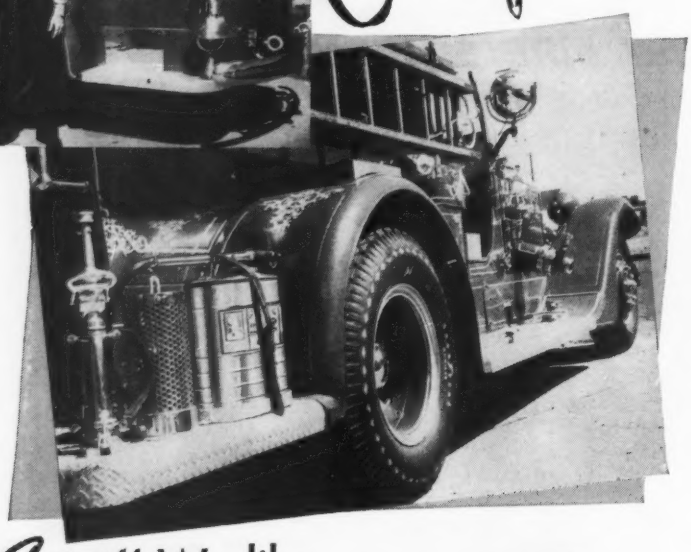
SPANNER WRENCH HOLDER

Wrenches ready for immediate use. Complete with two No. 10 spanner wrenches. Wrenches always in place, one hand operation. Style #448.

AKRON BRASS
FIRE FIGHTING EQUIPMENT

AKRON BRASS MANUFACTURING CO., INC.
WOOSTER, OHIO

Chief
F. R. DIMOND
OF HUTCHINSON, KANSAS

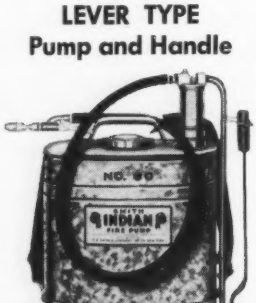


Says: We like
INDIAN
FIRE PUMPS

Because they are carried on the back leaving the men's hands free for climbing ladders, etc. We use them for all Class A fires. They are easy to get off the truck and on to the back of the men using them."

NO. 90
SLIDING PUMP TYPE

NO. 80
LEVER TYPE
Pump and Handle



INDIAN FIRE PUMPS are approved by UNDER-WRITERS' LABORA-TORIES

For all Class A fires and many class B fires, Fire Chiefs say INDIANS are "worth their weight in gold."

SEND FOR NEW CATALOG
Pacific Coast Branch:
Hercules Equipment & Rubber Co., Inc.
San Francisco 7, Calif.

Canadian Agents:
Fleck Bros. Limited
Vancouver, B. C., Canada
C. E. Hickey & Sons, Ltd.
Hamilton, Ont., Canada
Bison Hardware Co.
Toronto, Canada

D. B. SMITH & CO.
"FOR 70 YEARS THE LEADERS"
406 Main St., Utica 2, N. Y.

sulting in a product of extreme uniformity.

Other advantages claimed are: Light weight, zero twist under pressure, small-coil diameter, total weather protection and "Pres-R-Lock" couplings, embodying a new design for high-pressure fire hose.

An attractive, informative four-color broadside, describing the new hose, is available by writing to the company.

New Jeep Pumper

Valley Fire Truck Co., 59 Tuscola Road, Bay City, Mich., is producing a new pumper on the Willys FC170 Forward Control chassis.

It features a 103½-inch wheelbase, 10-ply tires, a 500-gpm midship centrifugal pump, 200-gallon booster tank and 150 feet of 1-inch booster hose on a reel.

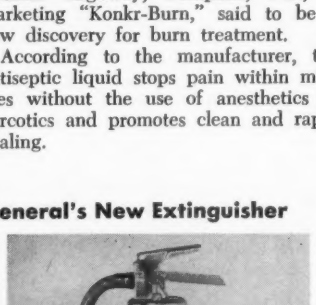
The hose body has space for 1,000 feet of 2½-inch Dacron hose and 300 feet of 1½-inch hose.

New Burn Treatment

The McCann Products Co., 100 South Federal Highway, Pompano, Fla., is marketing "Konkr-Burn," said to be a new discovery for burn treatment.

According to the manufacturer, the antiseptic liquid stops pain within minutes without the use of anesthetics or narcotics and promotes clean and rapid healing.

General's New Extinguisher



A new valve-in-head, cartridge-operated dry chemical extinguisher is now available from The General Fire Extinguisher Corporation, P. O. Box 263, De-

troit, Mich. One valve punctures the cartridge and simultaneously provides squeeze-grip control of powder flow. Available in 4, 10, 20 and 30-pound models, the units have stainless steel shells.

Appointments and Promotions

Harold Strain Joins Akron

Harold Strain formerly manager of the F. P. E. Division of American LaFrance Corp., Elmira, N. Y. has joined the Akron Brass Mfg. Co., Wooster, Ohio with the title of vice-president.

Sheehan Sales Manager Boston Woven Hose

Walter A. Sheehan has been appointed sales manager of the fire hose division, Boston Woven Hose & Rubber Co., Div. of American Biltrite Rubber Co. In this new position, he will direct the company's industrial and municipal sales activities for its complete line of fire hose. Mr. Sheehan was New England chemical sales manager for the Dow Chemical Company prior to joining Boston.

Literature Available

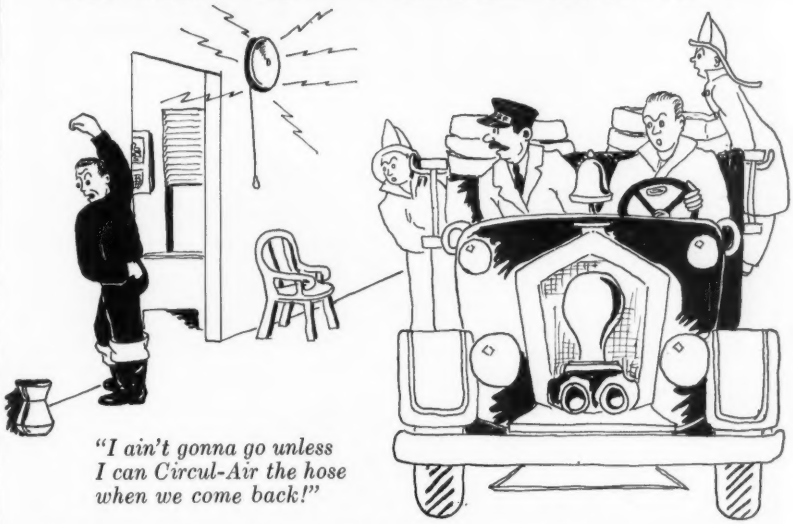
Washington Products Co., 240 South Fayette Street, Washington C. H., Ohio, has recently issued Catalog No. 10 describing its line of ambulance cots, stretchers and emergency first-aid equipment.

The Gorman-Rupp Company, Mansfield, Ohio, announces a new brochure "Portable Pumps for Fire Fighting." It describes the company's line of pumps including the Dual Fire Fighter, the Fire Fighting Trailer and the Fire Protection Tank Wagon.

American LaFrance Corporation, Elmira, N. Y., has released its new catalog 571 "Industrial Fire Equipment," a 22-page book of fire fighting equipment and accessories now available to industry. For a free copy, write to the company, giving your name and title on company or department letterhead.

A new leaflet describing the features of the Hannay hose reels for fire apparatus is available from **Clifford B. Hannay and Son, Inc.**, Westerlo, N. Y. □□

Our DON'T-DO-IT-YOURSELF Series - No. 3



"I ain't gonna go unless I can Circul-Air the hose when we come back!"

Well, you can hardly blame any fireman for wanting to use Circul-Air equipment, particularly after they have used the old "horse and buggy" methods that condemned good hose to an early death-by-hanging (in a tower) or by baking in the sun.

Circul-Air saves time and hard work and lengthens hose life.

It's the safest, fastest, easiest-to-use equipment that actually revolutionized Fire Station Design.

CIRCUL-AIR

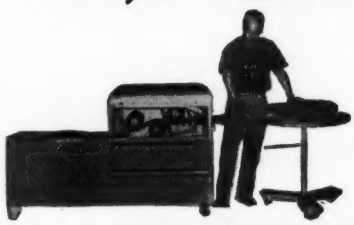
The ORIGINAL Electric Hose Dryer

- Eliminates Ugly Hose Towers
- Dries Hose in a Few Hours
- Dries Fire Clothing, Too
- Keeps ALL Hose in Service
- Reduces New Station Costs

UL LABORATORIES APPROVED FSA

Roto-Jet "Automatic" HOSE WASHER

SCRUBS — RINSES — DRAINS



- Hose is Self-propelled
- Washes Uniformly With or Without Detergents
- Drains Hose Linings, Too
- One-man Operation
- Portable

OVER 5000 Fire Departments Now CIRCUL-AIR Their Hose

Write NOW for latest descriptive literature on Hose Washers, Dryers, Storage Racks, Turntables.

THE CIRCUL-AIR CORPORATION 575 EAST MILWAUKEE DETROIT 2, MICHIGAN

CAIRNS

IN TOP-GRAIN LEATHER

No. 5A
The "NEW YORKER"
REGULATION

No. 550
The "SEAMLESS"
DROP BRIM

FIRE

IN ONE-PIECE ALUMINUM

No. 350
The "SENATOR"
REGULATION

No. 710
The "STREAMLINER"
DROP BRIM

HELMETS

IN "FLINT-FLEX" PLASTIC

No. 900
The "CLIFTON"
REGULATION

No. 725
The "CAVALIER"
DROP BRIM

THE FIREMAN'S
FIRST LINE OF DEFENSE

SINCE 1836

We can supply everything the fireman needs for his personal equipment. Write for Catalog 351.

CAIRNS & BRO., Inc. — Allwood, Clifton, N. J.

HOSPITAL SAFETY PROGRAM

Continued from page 465

any knowledge of the hard work and long hours which makes it successful. This was the case, but the programs continued with the volunteer firemen not only helping, but asking "How can we get further training?"

The Nashua Fire Department under the direction of the then Chief, Anthony Molloy; along with Saint Joseph's Hospital in that city, announced it would be willing to give demonstrations to interested fire departments. This was done and the response was more than gratifying. Since then, Chief Albert Tanguay, new Chief of Nashua, with the Sister Superior of Saint Joseph's, have held drills at least twice a year.

Chief Edmond Dansereau of the Claremont Fire Department, some 80 miles from Nashua, and Claremont Hospital Administrator Vernon Ballard held a drill, even bringing a piece of fire apparatus to the hospital. This was another "step" in the right direction.

In the Fall of 1956 a drill was held at the Concord Hospital for the purpose of demonstrating fire extinguishers and their use on different types of fires. This was done through the combined efforts of Chief Clarence Green, and Deputy Chief Murdock of the Concord Fire Department, and Concord Hospital Administrator Norman Brown and Safety Director Mrs. Gale Austin.

The one-day program was not only for the nearby fire departments, but for hospitals in the area as well, and a large group turned out. In fact, it was so well attended that it was decided to have an annual state-wide program along similar lines.

On September 17, 18 and 19, 1957, a three day institute was held under the able direction of Administrator Norman Brown, now President of the New Hampshire Hospital Assoc.; Mrs. Gale Austin, Safety Director; and Miss Claire O'Neil, Director of Nurses; as well as Chief Henry Drew, Acting Chief of the Concord Fire Department, and Deputy Chief Murdock; along with Fire Marshal Aubrey G. Robinson.

The guest instructor was Lieutenant Robert McGrath, of the Chicago Fire Prevention Bureau. Lt. McGrath demonstrated and trained hospital and fire service personnel in patient carries and fire extinguishing, as well as evacuation under actual fire conditions; such as beds on fire, containers burning, etc. All of this was so arranged that the procedures, although out of doors, were in locations set up to resemble rooms in a hospital.

The Institute, the largest operation so far attempted, was so successful that a team of eight nurses from the Concord Hospital has been organized for the purpose of demonstration and travel to the various hospitals in the State, giving a course in fire supression and evacuation. The Franklin Fire Department rescue squad has also been training with the local Franklin Hospital personnel and is now assisting in the training of other fire departments.

Concord Hospital has for several

months been working on a plan known as the Hospital Disaster Plan. This is designed to handle an influx over and above the normal bed capacity.

In this plan they use outside facilities for aid such as: (1.) All Concord Hospital Associates and Trustees; (2.) Fire and Police Departments; (3.) Local Funeral Directors Association; (4.) National Guard; and (5.) Prep School Boys.

Full scale drill successful

On December 4, 1957 at 8:24 p.m. the dispatcher on duty at the Concord Fire Headquarters received a call from the Hospital switchboard stating "this is a 99 Disaster Test, please take action, do not send fire apparatus."

Signal 99 was immediately sounded on the air horn fire alarm system. This placed in motion the disaster plan and one of the most surprising and successful drills ever held in New Hampshire.

Plans for the drill were top secret and only two people at the Concord Hospital and the City of Concord knew what the "disaster" would be. These were Mr. Norman Brown, Administrator; and Mrs. Austin, Chairman of Safety.

Secrecy was so well kept that of the twenty-odd boys at St. Paul's School, one mile distant, who played the part of "victims," it is believed that only a few actually knew what they were taking part in. However, when approximately nine minutes later they arrived at the emergency entrance of the hospital in the Concord Police ambulance, they knew it was serious business.

The hospital cafeteria was cleared of tables and chairs in minutes to take care of the incoming victims. As they arrived they were taken to "Sorting & Tagging" in the cafeteria, where they were tagged and sent to their respective places in the hospital; operating rooms, recovery rooms (shock only), First Aid, X-ray and even the Morgue.

Response of all hospital staff in returning to the hospital from their homes was amazing; some even took taxis to return to work. The Concord Fire and Police Departments called in off-duty men, as well as call members, and took over the disaster area in a most highly commendable way. The parking of cars in the hospital area was so well supervised that of some three hundred cars which converged on the scene only two missed going to their assigned locations. The New Hampshire National Guard brought in extra cots from a depot some five miles away, efficiently and quietly, and were ready for more action if necessary.

Whatever emergency arises in the future, one thing is certain; a well organized hospital program can save lives and extinguish incipient fires. □□

Vamps "Burn" Mortgage

The Chalfonte Volunteer Fire Co., East Pittsburgh, Pa., celebrated the "burning of its mortgage" on April 12. A dinner for the more than 200 members and guests was followed by dancing.

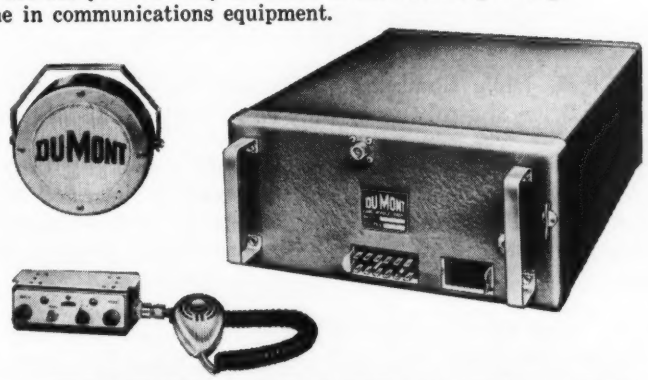
—A. N. Tomasic

DEPENDABILITY WHEN IT COUNTS

When seconds can be measured in life and property, the stakes for dependable performance are high. And at such a time, Du Mont 2-Way Radio dependable performance pays off . . .

Du Mont 2-Way Radio is designed to provide the service expected by firematic organizations. It's produced by personnel unexcelled in the design, and manufacture of 2-Way Radio. Competent local authorized Du Mont service organizations assure top-notch maintenance of the equipment at all times.

Investigate. Compare Du Mont with any other 2-Way Radio and see for yourself why Du Mont is the fastest growing name in communications equipment.



DEPENDABLE DU MONT 2-WAY RADIO

MOBILE COMMUNICATIONS DIVISION,

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VALLEY FIRE TRUCK CO.

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Valley Champion Basic Specifications

Mounted on Willys 4-WD FC-170 Special chassis—103½" W.B.–115 H.P. Engine–Full Cab–500 G.P.M. Mid-Ship Pump Class "A"—200 Gal. Booster Tank & Reel–150'–1" hose–Hose Bed Capacity 1000' of 2½" and 500' of 1½"—Ladders, Axe and Pike Pole —Compartment 20" x 20" x 60"—Complete Fire Equipment as pictured—2 lengths of 4" suction hose—Write for complete Specifications and Prices.

IDEAL FOR MANUFACTURING PLANT FIRE PROTECTION

(capable of going down narrow aisles as it is only 6¾ Ft. wide and 20 Ft. long.)

THE CHAMPION WILLYS 4-WHEEL DRIVE FC-170 FIRE TRUCK

500 G.P.M. Triple Combination Pumper Mounted on Willys 4-Wheel Drive Special Heavy Duty Fire Truck FC-170 Chassis.

Here is a Fire Fighting Truck that will do everything that a large one will do, and can go places and fill the need that others CANNOT. Powered by the famous Super Hurricane, 6 cylinder, 115 H.P. engine the Champion looks like big fire trucks.

Off the road fire fighting, no other can follow the Willys Champion Fire Truck. You may pump and move fire truck in motion.

This WILLYS CHAMPION, 4-WHEEL DRIVE, all purpose fire truck is suited for Villages, Cities, Townships, as well as Industrial and Commercial Fire Protection.

VALLEY FIRE TRUCK CO.

59 Tuscola Rd. Phone TW 5-6601 Bay City, Michigan

PANACEA FOR DUMP FIRES

Continued from page 461

budget, especially when it occurred several times each year. In addition to the normal suppression costs, there was also heavy loss due to damaged fire hose which was cut on sharp objects throughout the dump.

During the spring of 1957 we began to feel the effects of what seemed to be an unusually early dry spell, and of course, what turned out to be a costly and tragic waterless and dry summer. We had practically no rainfall after the 15th of March.

Fire burns 'spring to fall'

On Easter Sunday, at about noon, with the dump completely covered with exposed combustible litter, flames suddenly broke out and spread throughout the area. The fire threatened buildings across the way on U. S. Highway 6, and eventually spread into and burned over 15 acres of brush land while threatening other buildings in the area.

Four engine companies from East Providence plus two additional companies from an adjoining town, directed by two chief officers, finally brought this conflagration under control without loss to surrounding property.

Then began an expected long drawn-out attack on the dump. The effort was brought to a halt after a few days when it became apparent, because of the water shortage, hot weather and a heavy drain on the water system, that operations would have to be suspended and the fire permitted to burn itself out.

This created a very disagreeable situation because of the heavy pungent smoke which spread throughout the city, causing a rash of complaints and resulting in a controversy over the city water system which still continues. Extinguishing operations at the dump were not resumed until August 25th when the city-wide "water ban" was lifted.

Several meetings of fire department officials and various members of the city council, relating to the heavy drain on the water system and the exorbitant cost of extinguishing these continuing fires, resulted in an official request for a detailed cost accounting of suppression operations of this fire.

Cost of operations

This breakdown disclosed the following costs shown in the table. This total is not to be looked upon too lightly, especially when this expense occurs several times each year; the figures cover only the period from August 27 to September 17, 1957.

Amount of water used—5,040,000 gal. @ $150 per mg	$ 750.00
Gasoline used by pumper—634 gal @ $.2015	127.75
Motor oil used, including change—55 qts. @ $.21	11.55
Labor—560 hrs @ $.90	504.00
Hose damaged beyond repair	

due to cuts from sharp objects encountered in the dump—500 ft. @ $1.75 ..	875.00
Total	$2,268.30

At the time this report was submitted, the fire was still burning in many places which, of course, further increased the cost of final extinguishment. At this point, another nuisance fire broke out in a three-acre "peat bog" overtaxing our facilities and causing curtailment of operations at the dump.

Nozzle applicator employed

During this curtailment, a representative from the Rockwood Sprinkler Company, Al Mullins, dropped in for a casual visit. As might be expected, the discussion ultimately got around to the problem of the dump fire. As a possible solution, Commander Mullins suggested we try a bayonet applicator on a 1½-inch line, to determine whether we could effectively reach and extinguish the deep-seated fires which were still burning at several places in the dump.

At this point we were quite willing to try almost any method that offered a possible solution.

Immediate steps were therefore taken to renew operations. This new approach resulted in the following findings:

1. We were able to pierce the dump debris to the entire length of the bayonet applicator without difficulty, thereby reaching into the very heart of most of the deep-seated fire

2. We were able to operate the bayonet on a 1½-inch line thereby reducing water flow from about 660 gpm required by the deluge gun, to about 50 gpm with this applicator

3. We were able to employ a direct hydrant line, thus eliminating the cost of operating a pumper

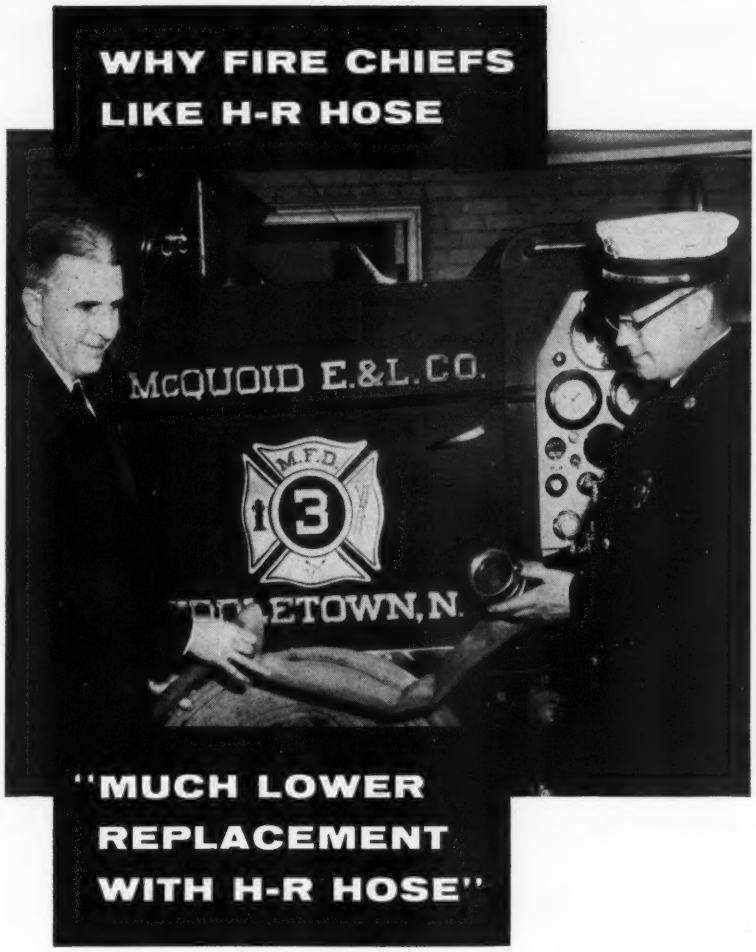
4. One man could control and probe, as necessary, seeking out and locating the deep-rooted fire

5. This procedure permitted us to operate two or three bayonet applicators at one time, speeding up the extinguishing process, instead of operating in just one spot at a time with a high-volume deluge gun

6. Had we been able to apply this method at the outset we could have saved a large portion of the above cost and at the same time obviated much of the danger to personnel

In summing up the advantages of this new approach, we also found that in places where a type of refuse was involved which did not absorb water as readily as we expected, the additional use of a wetting agent was very advantageous.

One may find, of course, that each particular spot of this type of city dump will not react in exactly the same way. We experienced some difficulty in controlling



The Middletown, New York, Fire Department has been using Hewitt-Robins fire hose exclusively for the past eight years. Why? In the words of Chief G. Richard Truex, here are some reasons why:

"Prior to 1950, we purchased hose from several manufacturers. Since then we have been purchasing your hose, and at the present time we have about 10,000 feet in service. We have found your hose to be very satisfactory and dependable, and highly recommend it to other Fire Departments.

"We are particularly pleased to find that our annual replacement of hose has been considerably lower in the past few years."

The experience of Chief Truex (shown above with John M. Servin, Security Fire Equipment Company Representative) is typical. Because Hewitt-Robins manufactures *all* types of municipal and industrial fire hose, to the highest possible standards of quality, it *pays* to specify Hewitt-Robins.

HR HEWITT-ROBINS

Stamford, Connecticut

HEWITT RUBBER DIVISION, 240 KENSINGTON AVENUE, BUFFALO 5, NEW YORK

IMAGINATION, NOT IMITATION

has produced a new design of

booster hose coupling with

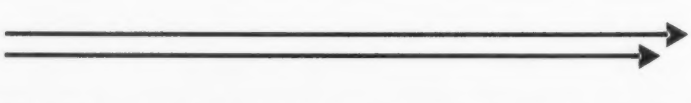
→ *PLUS FEATURES* ←

ALL BRONZE

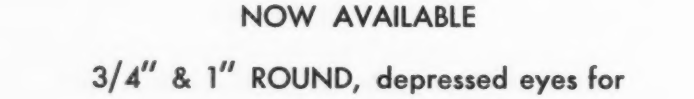
EQUAL GRIP HOSE CAPS

HIGH COMPRESSION SLEEVES

LEAST SIZE & WEIGHT



ALLWAY BOOSTER HOSE COUPLINGS ARE ALL WAYS BETTER



NOW AVAILABLE

3/4" & 1" ROUND, depressed eyes for spanner wrench use, SATIN finish, either CHEMICAL 8 or 1"—S.I.P.T. 11 COUPLING THREADS, for hose that measures

3/4" X 1-3/16", 1-1/4", 1-5/16", 1-3/8" O. D.

1" X 1-1/2", 1-9/16", 1-19/32", 1-21/32" O. D.

ALLWAY COUPLING CO.

P. O. BOX 2181, GRAND CENTRAL STATION
NEW YORK, NEW YORK

fires which were burning 15 to 20 feet down, and under huge pieces of debris which tended to shed the water. However, in these cases we permitted the fire to extend upward to the surface, after which we opened up where we could effectively get water onto it.

We have found other uses for this special equipment beyond its application to dump fires, such as hard-to-reach spaces, partition fires, etc.

In the final analysis, we have been so pleased with its performance that we plan to equip each engine company with the device. □□

Our Readers Write Us

What Is A Fireman

To the Editor:

In accordance with your policy of printing items of interest to the volunteer firemen, we of the West Point Volunteer Fire Company feel that the following merits an appearance in *Fire Engineering*. The item was composed by the writer.

A Fireman Is —

F —faithful to his cause
I —interested in his community
R —ready to respond to any call for aid
E —eager to help his fellow man
M—merciful to his criticizers
A —alarmed by lack of interest
N—never too tired to respond

Yours for better fire protection,
Tony Riccardi, secretary
West Point, Pa., Vol. Fire Co.

Likes Conference Report

To the Editor:

That is a peach of a FDIC story in the March FIRE ENGINEERING, and the pictures added greatly to it.

Congratulations and hearty thanks for another superb job of reporting!

I might add that the rest of your publication was up to par too.

Dick Vernor

Would Like to Exchange Flags

To The Editor:

I am a volunteer of the 9a. Cia. de Bomberos de Santiago and in my opinion your magazine is very interesting. I will be glad to cooperate with comments or snapshots of our most important fires.

I have a suggestion which I think might increase the knowledge of the activities of the "Knights of Fire": I would like to exchange flags with firemen of other countries. My address is given below.

Yours sincerely,
Eleodoro Perez Labayru
9a. Cia. de Bomberos de Santiago,
Maturana 409
Santiago, Chile

RATING BORADS—

Continued from page 460

should consider including studies of the grading schedule in the school curriculum.

Study of the grading schedule and its ramifications and implications has proved a revelation to many fire officers. Besides giving them a clearer picture of the relationship of the rating organization to their local fire department, it has also furnished them a wealth of related information and other useful data on the fire hazards in the areas which they are obliged to protect. This material also comes in handy for chiefs who are called upon to prepare building and fire prevention codes and to conduct fire prevention activities, generally.

A point to be stressed is the fact that not only do the rating board's reports and recommendations provide vital information affecting the fire defenses and fire forces of a community, but the services of the rating organization, chiefly through its engineers, may well indicate to the fire administrators the best methods of putting the recommended improvements into effect. In short, if the community is to gain a better rating, the progressive fire officer will not merely accept and pigeonhole the report and its recommended improvements, but will enlist the help of the board to determine the best ways and means of finalizing the improvements called for.

The point is often overlooked, particularly by officers who find the rating organization's recommendations running counter to their own beliefs, that the rating groups are just as interested in perfecting the fire protection of a community as is the fire chief. If they must take sides, it is almost invariably with the fire department. But if their engineering services are to be worth anything, they must be uncolored by prejudice or favoritism. Like the umpire at the ball game, the rating engineers must "call them as they see them." In fact, they have the advantage over the umpire in one respect at least—they can support many of their decisions with factual evidence such as pitot readings and slide rule findings.

The real value of the rating organization to the fire service, therefore, is not so much what information, factual and otherwise, it unearths and submits for consideration to a community, as the ways in which this information is finally and fully used. It costs a community and its fire department nothing to get it. If secured through private or commercial sources, the cost would perhaps be prohibitive—not to overlook the fact that unimpeachable as the results might be, the findings would always be open to the challenge of favoritism. □□

Fremont To End Integration

The Fremont, Calif., City Council recently voted to discontinue public safety officers effective July 11. This action will separate the functions of the fire and police services which had been combined.

—R. Bendel

WEAR A SCOTT AIR-PAK
AND BE SURE

Yes, you must protect your own life in order to successfully save another . . . and the surest way of doing that is to don a Scott Air-Pak before you enter a smoke filled area. Then you will breathe pure, fresh, cool air no matter how thick or poisonous the smoke.

The New SCOTTORAMIC Mask gives unlimited vision in all directions, making a rescue job with a Scott Air-Pak safer and surer.

Is your fire company Scott equipped for modern rescue work? Let us show you how little it costs. You'll be amazed at the annual savings over other types of breathing equipment. Write us today or contact your nearest Scott Distributor.

SINCE 1932 Scott FOR SAFETY - FOR SERVICE

Safety Equipment Division
SCOTT AVIATION CORP.
215 ERIE STREET LANCASTER, N. Y.
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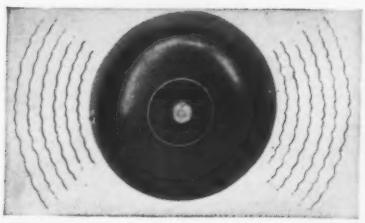
Export: Southern Oxygen Co., 250 West 57th Street, New York 19, N. Y.

AUTOMATIC FIRE ALARM

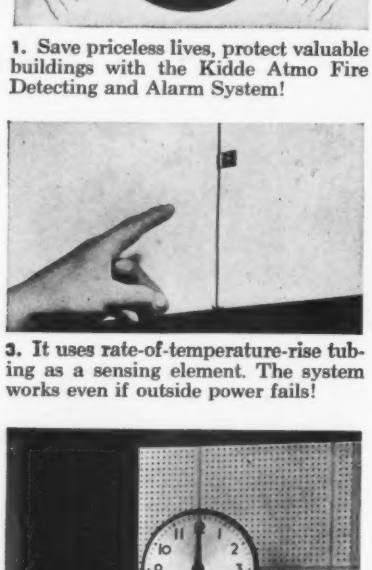


1. Save priceless lives, protect valuable buildings with the Kidde Atmo Fire Detecting and Alarm System!

2. This automatic detecting and warning system sounds an alarm instantly at the *first* hot breath of fire!

3. It uses rate-of-temperature-rise tubing as a sensing element. The system works even if outside power fails!

4. Kidde's Atmo system can sound alarm at fire area, outside the building or at local fire department station!



5. Kidde's Atmo system also gives fire location at a panel near any manned telephone switchboard!

Kidde Atmo
FIRE DETECTION
J. H. SCHARFF, INC.
633 Main Street, Orange, N. J.
A Subsidiary of
Walter Kidde & Company, Inc.

For fast, dependable fire detection and warning, install a Kidde Atmo Fire Alarm System. Ideal where life protection and early fire warning is essential, the Kidde Atmo system can also close doors, shut off fans, motors, blowers, is automatically re-setting after use or test. Get more information! Write today and ask for Kidde's Atmo Alarm Systems booklet!

FOL-DA-TANK DOUBLES THE USE **OF YOUR TANKER!**
Acclaimed by Fire Departments Everywhere As The Answer to Adequate Water Supply!

Unloaded from fire truck or tanker and set up in less than 1 minute.

Two men easily open Fol-Da-Tank. Tanker or Mutual Aid trucks fill tank.

While pumper drafts from Fol-Da-Tank, tanker is free to bring additional water.

Fire out, Fol-Da-Tank emptied in 30 seconds. Ready to reload.

You, too, can save the cost of an extra tanker and still give the protection of 2 tankers! In rural areas where the nearest water supply is often miles from the fire the Fol-Da-Tank often makes the difference between extinguishing the fire and the loss of thousands of dollars in property damage.

600 and 1000 GAL. TANKS **Heavy duty construction**

Contact Your Distributor or WRITE:
FOL-DA-TANK COMPANY
Box 361, Rock Island, Illinois

What's Burning

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from April 20th to May 19th.

Birmingham, Ala.—Avenue F. Grill, Baggett's Food Store, Brocato Bros. Grocery, Jo Jo's Market, Corner Superette, Decatur Transit warehouse, John Bailey's garage and Hall Motor Express warehouse destroyed. Flash fire.

Little Rock, Ark.—Building housing Kimbell Grocery Co., wholesalers, damaged.

Borrego Springs, Calif.—Borrego Palms resort hotel damaged. Water heater exploded.

Eureka, Calif.—White House Furniture and Appliance Co. store damaged.

Los Angeles, Calif.—Three-story building at 902 South Broadway, occupied by several firms, damaged. Arson.

Los Angeles, Calif.—Zinsco Electrical Products Co. damaged. Exploding magnesium and burning paint.

Watsonville, Calif.—Bornia apple storage and packing plant destroyed.

Hartford, Conn. — Building housing Western Auto Store, Joseph's Furs, Springsteele Toy Co. and offices, damaged.

Wilmington, Del.—Belvedere Apartments damaged. Defective wiring.

Wilmington, Del.—David Stockwell's Barley Mill House destroyed.

Cornelia, Ga.—Mt. Carmel Baptist Church destroyed.

Fort Screven, Ga.—Fort Screven Development Co. building destroyed.

Basalt, Idaho—Basalt Grade School destroyed.

Moscow, Idaho—Dormitory at University of Idaho destroyed.

Rigby, Idaho—Nielsen Dodge-Plymouth agency damaged extensively. Faulty wiring on one of the cars.

Carlinville, Ill.—Large barn on Elmer Hutcher farm, along with 100 sows and pigs, destroyed.

Chicago, Ill.—Gus Allgauer's Fireside Restaurant destroyed. Two masked gunmen poured gasoline over rugs and furniture before setting fire to property.

Chicago, Ill.—L. Fish Furniture Co. warehouse damaged.

Galesburg, Ill.—Galesburg Public Library housing some Lincoln papers, destroyed.

Tallula, Ill. — Ninety-four-year-old Tallula Christian Church destroyed. Defective heating system.

Bedford, Ind.—Church of God damaged.

Fort Wayne, Ind.—Fort Wayne Waste Paper Co. destroyed; adjoining Consumer Pipe and Supply Co. damaged.

Gary, Ind.—Building occupied by Lido Hotel and dwelling of Mrs. Bernice Williams, damaged.

Huntington, Ind. — Simpson Elevator heavily damaged.

Indianapolis, Ind.—Building housing Capitol Paper Co. destroyed.

Madison, Ind.—Bennet Boat Warehouse damaged.

Oceoloa, Ind.—Martin Furniture Co. damaged.

Des Moines, Iowa—Barnett Furniture Co. warehouse damaged.

Herndon, Iowa—North Central Milling Co. elevator destroyed. Spontaneous ignition.

Harlan, Ky.—Fuller Furniture Co., apartments and cafe damaged.

Sanford, Me.—Cecil Chadbourne poultry farm destroyed.

York Beach, Me.—Breakers Hotel damaged.

Elkton, Md.—Judy Lynn Frock factory building destroyed.

Potomac Heights, Md.—Safeway Supermarket damaged.

Boston, Mass.—Building occupied by Rosoff's Restaurant, Benson's women's sportswear manufacturing plant, New England Decorating Co., a novelty company and Armstrong's small-ware store, damaged.

Brocton, Mass.—Association Supply Co. warehouse office building damaged.

Holliston, Mass.—Barn on Mrs. Samuel Eliot farm destroyed.

Medford, Mass.—Medford Hillside Methodist Church damaged.

Westboro, Mass.—Red Barn Theater destroyed.

Allegan, Mich.—Building housing Lovett Boat Co. and No. 2 plant of Edison Heatube division of McGraw-Edison Co., destroyed.
Flint, Mich.—Meat Market at Fenton Road damaged.
Ludington, Mich.—Pier Inn restaurant and bar destroyed.
Wyandotte, Mich.—Michigan State Liquor Control warehouse damaged.
Minneapolis, Minn.—Downtown office building housing cafe, offices of knitwear firm, novelty distributing company, boiler company and Ladies International Garment Workers Union, damaged.
Louisville, Miss.—Barber and Beauty Shop and Pearson Jewelry and Appliance Store destroyed; Jitney Jungle Store, Fair Grocery and Fair Co.'s Ladies' Shop damaged.
Sedalia, Mo.—Building occupied by Montgomery Ward & Co. damaged. Lightning.
Caldwell Township, N. J.—Union General Highway Store housing twelve leased concerns destroyed.
East Orange, N. J.—Ashland School damaged.
Newark, N. J.—Three stores and apartments at 520-524 Broadway damaged.
New Brunswick, N. J.—C & K Dress Mfg. Co., Inc., and Avery Adhesive Label Corp. badly damaged.
Perth Amboy, N. J. — Restaurant and five women's apparel shops destroyed; numerous other shops damaged.
West Orange, N. J. — Unoccupied Mountain Crest Swimming Club damaged.
Whitehouse, N. J.—Building housing General Coil and Transformer Co. damaged.
Farmington, N. M.—Dormitory building at Bisti Methodist Mission School destroyed.
Canandaigua, N. Y.—Grain mill destroyed.
Copaigue, N. Y.—Amityville Farmers' Market damaged.
East Norwich, N. Y.—Fifty-year-old mansion of Mrs. Maude Graig destroyed.
Gloversville, N. Y.—Taylor Awning and Boat Co. destroyed.
Grafton, N. Y.—Babcock Lake Lodge destroyed.
Troy, N. Y.—Sperry Warehouse damaged.
Henderson, N. C.—Parker's Rexall Drugstore, King's Ladies' Ready-to-Wear Store and Modern Beauty Shop, heavily damaged.
Lexington, N. C.—A. A. Foltz Cement Pipe Co. damaged.
Sylvia, N. C.—C. J. Harris Community Hospital destroyed.
Bucyrus, Ohio—Elberson Hotel, vacant since January, destroyed; Knights of Columbus Lodge Hall, Daughters of American Veterans meeting room, barber shop, tavern, loan agency, typewriter sales & service shop, Western Union branch and water department offices, damaged.
Cleveland, Ohio—Moe's Main Street night club and restaurant damaged.
Cleveland, Ohio—Wepco heavy equipment repair plant damaged. Spark from dropped trouble light ignited gasoline fumes.
Columbus, Ohio—Building housing Parky's Tavern, Miller-Davis Electric Co., Columbus Business University, Caplito Beauty Supply, Leon Ackerman Tailor Shop, and Outdoor Military Store, destroyed.
Dayton, Ohio—Fireworks display building of United Fireworks Manufacturing Co. damaged. Lightning.
Dayton, Ohio—Miami Valley Distributing Co. warehouse damaged.
Maumee, Ohio—Anderson Grain Elevator and drying house damaged.
Rossford, Ohio—Soybean division plant of General Mills Inc. damaged. Explosion.
St. Paris, Ohio—Barn, two silos and shop on Robert Polk farm damaged.
Ardmore, Okla.—Tivoli Theater and barber shop destroyed; Eden's Restaurant, next door, damaged.
Tulsa, Okla.—Indian Hills Country Club destroyed.
Portland, Ore. — Ainsworth Food Center destroyed.
Portland, Ore.—Weiner Furniture Store destroyed.
Aaronsburg, Pa. — Historic Salem Lutheran Church destroyed. Lightning.
Lancaster, Pa.—Spruce Villa diary farm barn destroyed.
Norristown, Pa.—Frey's Sandwich Shop damaged.
Philadelphia, Pa.—Gaudio Bros. Inc. plant damaged.
Philadelphia, Pa.—Jiffy Baking Co., Inc. plant destroyed.
Narragansett, R. I.—"Valmar," unoccupied sum-

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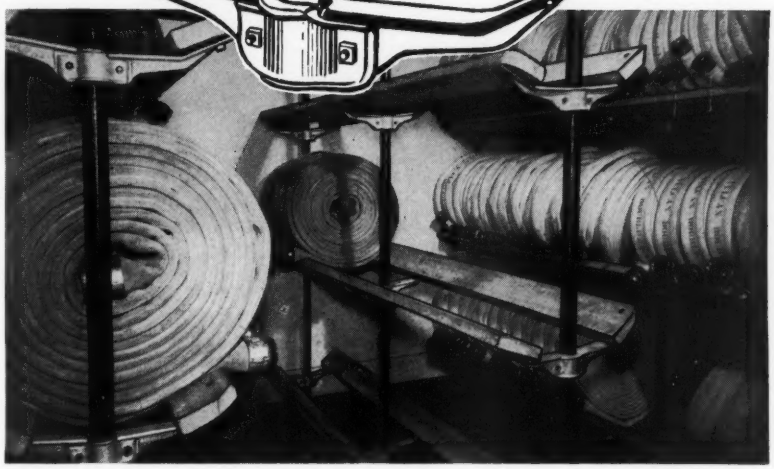

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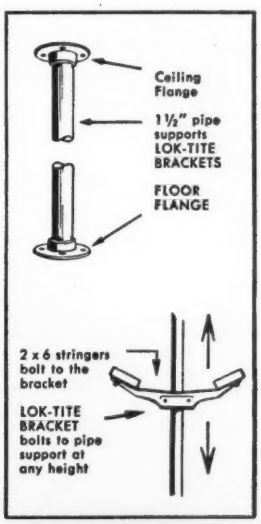
Lok-Tite fire hose brackets provide storage racks in odd dimension areas where ready-made storage will not fit. Encourage good housekeeping practices . . . assure easy hose inspection and correct ventilation by building sturdy storage with Lok-Tite brackets approved by hose manufacturers and fire departments everywhere.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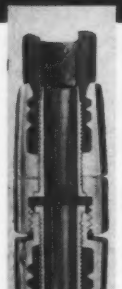

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5. REMOUNTABLE—can be removed and re-attached with a key any number of times without cost.
6. WEIGHT—no heavier than comparable expansion type coupling.

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Available in polished bronze in both standard rocker and forestry lug. 1½" in production. Larger sizes will be available.

BAR-WAY MFG. CO., STAMFORD, CONN.

mer mansion of Dr. Sylvester Capalbo heavily damaged.

Providence, R. I.—Classical High School damaged. Believed incendiary.

Darlington, S. C.—Evans Motor Co. building destroyed.

Donalds, S. C.—Three buildings housing three furniture and appliance stores of Pearman, destroyed.

Greenville, S. C.—Emaxcee Building housing Scott's Employment Service and Belk Simpson Co. damaged.

Chattanooga, Tenn.—M. M. Hedges Manufacturing Co. damaged.

Crossville, Tenn. — Rex-Gaston Products Co., wooden products plant, destroyed. Lightning.

Knoxville, Tenn.—C'est Bon restaurant destroyed.

Plattsburgh, Vt.—Ninety-year-old W. W. Finney Feed and Machine Store building destroyed.

Glasgow, Va.—Colonial dwelling of Delegate Baldwin Locher destroyed.

Lynchburg, Va.—Timber Lake Mills, water-ground meal firm, damaged. Gasoline engine exploded.

Newport News, Va.—Deepwater Terminal of Esso Standard Oil Co. on waterfront, virtually destroyed. Electrical control panel explosion in steam generating plant.

Pulaski, Va.—Riggle's Market and Press Furniture Store damaged.

Richmond, Va.—Sheltering Arms Hospital considerably damaged.

Davenport, Wash.—Odessa Union warehouse destroyed.

Ellensburg, Wash. — Ray's Recreation Center and restaurant of Ray Doss destroyed.

Spokane, Wash.—Evangelical United Brethren Church destroyed. Faulty furnace.

Vancouver, Wash.—Carlson Planing Mill destroyed. Incendiary.

Yakima, Wash.—Harwood Hop Kilns destroyed.

Richwood, W. Va.—Spencer Pontiac Garage, including five cars, destroyed.

Milwaukee, Wis.—Rojahn and Malaney wholesale florists' building damaged.

Orilla, Ont.—Orilla Air Service Waterfront hangars and workshops damaged. Spark from welder's torch.

Peterborough, Ont.—Empress Hotel destroyed.

Picton, Ont.—Mill Section of Prince Edward Poultry Co-operative damaged.

St. Joachim, Ont.—Bakery, two dwellings and two barns destroyed.

Toronto, Ont.—Grain elevator in harbor district destroyed.

Toronto, Ont.—Valley Sales Ltd. building damaged.

Montreal, Que.—Dapper Dan's store and adjoining Fischer Cameras destroyed; two other businesses damaged.

St. Denis De Brompton, Que.—Business block destroyed. □□

Boys Admit Starting Newark School Fire

The Newark, N. J., Arson Squad has reported that three teenage boys, two 15 and the other 14, have admitted starting the fire in South Tenth Street School on May 11 which caused over $75,000 damage and forced the closing of the building for two days.

Police said the boys accidentally started the fire by using paper torches to light their way as they ransacked classroom after classroom in the early morning hours. The boys said they were looking for money but they also overturned desks, toppled file cases and smashed chairs. One youth explained this was done, "because I didn't like a woman teacher here."

The fire burned out three classrooms and damaged several others. When the school was reopened six of the rooms were not fit for use. These will be rebuilt along with the boys' lavatory and part of the first floor ceiling.

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Questions and Answers

Is Hard Suction Necessary?

To the Editor:

Because water pressure is sufficient in nearly every city the use of soft suction hose is almost universal. The inclusion of hard suction hose and the necessary carrying troughs adds from $400 to $600 to the cost of each pumper.

My question is: Why do land-locked cities still insist that all new pumpers be equipped with two lengths of hard suction hose, plus the troughs, when the use of same is non-existent except for testing pumps at draft?

W. C.

Answer: It is a generally accepted fact that soft suction hose is excellent for pumping operations where a good hydrant supply is provided. However emergencies may arise when drafting becomes necessary and good practice requires that fire departments be well prepared for this operation.

We have checked with several authorities and all agree that it may be possible to eliminate hard suction from engine companies which normally operate only in certain high value districts. The same authorities feel that eliminating hard suction entirely would be similar to putting all our eggs in one basket—in case of water system failure the pumpers would be useless!

A point to consider is the value of hard suction to communities bordering rivers, lakes, etc. In case of a large fire it may be possible to obtain water from the natural source and prevent taxing a water system normally considered good, but which under heavy demand, may only be rated fair.

A second point is the possibility of Civil Defense operations. It is conceivable that in the event of enemy attack, normal water supplies may be disrupted, in which case drafting may be the only solution.

Departments having mutual aid agreements frequently find that drafting is the only possible method of obtaining water and hard suction is a necessity. In addition, fire departments are frequently called upon to dewater basements and other areas following floods, etc., necessitating the use of hard suction.

Our answer is only general in nature and for more specific assistance, we suggest you contact the chief engineer of the rating board having jurisdiction in your area. His opinions will be based upon good practice and a more intimate knowledge of your specific needs. □□

New York Extends Compensation Coverage

Beginning May 1, volunteer firemen in the State of New York who are injured in competitive events "intended to promote fire department efficiency," will receive compensation under the provisions of a recently enacted law.

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LONDON MARKET FIRE

Continued from page 457

known, it is believed to have been of electrical origin, somewhere in the basement's refrigerating equipment. The brigade's first effort was to locate the seat of the fire and to ascertain its extent. This was a hopeless task because of the dense smoke, limited visibility, intense heat and "rapidly worsening conditions."

Breathing apparatus was only partially effective, the men being unable to remain in the "oven like" basement for more than 15 minutes at a time. In some cases the limit was even less and men had to be carried from the basement suffering from heat. It was soon evident to the officers in charge that the fire was progressing in the cubicles and compartments, feeding on the combustible partitions, insulation and stock. Ventilation was practically impossible and men on the hose lines were unable to advance more than about a yard in two hours. Although firemen, reinforced by additional forces, endeavored to come to grips with the main body of the fire for some 24 hours, they were ultimately forced to withdraw from the building.

At about 3:00 p.m. on Friday, January 24, the fire broke through the heavy ground floor of the market which, in places was two feet thick. This liberated intense heat and flammable gases and fire soon involved the entire Poultry Market.

Course of fire anticipated

The breakthrough presented a serious problem because the roof of the market, as said, was supported on unprotected iron columns and it would have been needlessly risking life to attempt to further fight the fire from within.

This situation — the breakthrough — had been fully anticipated, and after men were withdrawn, "radial branches" (heavy duty streams and distributor appliances) were placed in position, and other defensive measures taken to prevent the adjoining markets (connected by covered ways to the Poultry Market on the east and west sides), and the surrounding premises from becoming involved with the radiated heat. "This" states Chief Delve, "was the critical period of the fire and at times the flames reached well over 100 feet."

The Brigade's plan to confine the blaze to the Poultry Market was successful; no surrounding exposures became involved, although the heat generated was sufficient to scorch the structures across Smithfield Street, 60 feet distant.

During the first 24 hours of the struggle the number of pumps was built up until the total "jets" (streams) were 25, of which 12 were what we in this country would call master streams.

The underground snail-like progress of the firemen operating in the smoke and heat-charged tunnels took heavy toll of personnel. Man after man was dragged to the outer air, the most seriously affected given oxygen, after which some returned to duty—and some went to hospitals—30 of them to nearby St. Bartholo-

mew's for treatment. About 800 cylinders of oxygen were used during the first day. In all, more than 2,000 firemen were engaged in the struggle, using more than 450 pumps.

Control points set up

The danger of men getting lost and suffocating in the pitch dark tunnels was obvious and urgent, and control points were set up as early in the action as possible listing the men who were working below surface, and the time at which they descended. Men were able to operate in the basement areas not more than 15 minutes at a stretch.

It was a control point board which first indicated that two fire fighters who died were missing and overdue. These were Station Officer J. Fourt-Wells and Fireman R. D. Stocking. It was realized at once that they must be in serious trouble and as many men as possible were sent down to find them. It was 45 minutes before this was accomplished. Although efforts were made to revive them they were beyond aid.

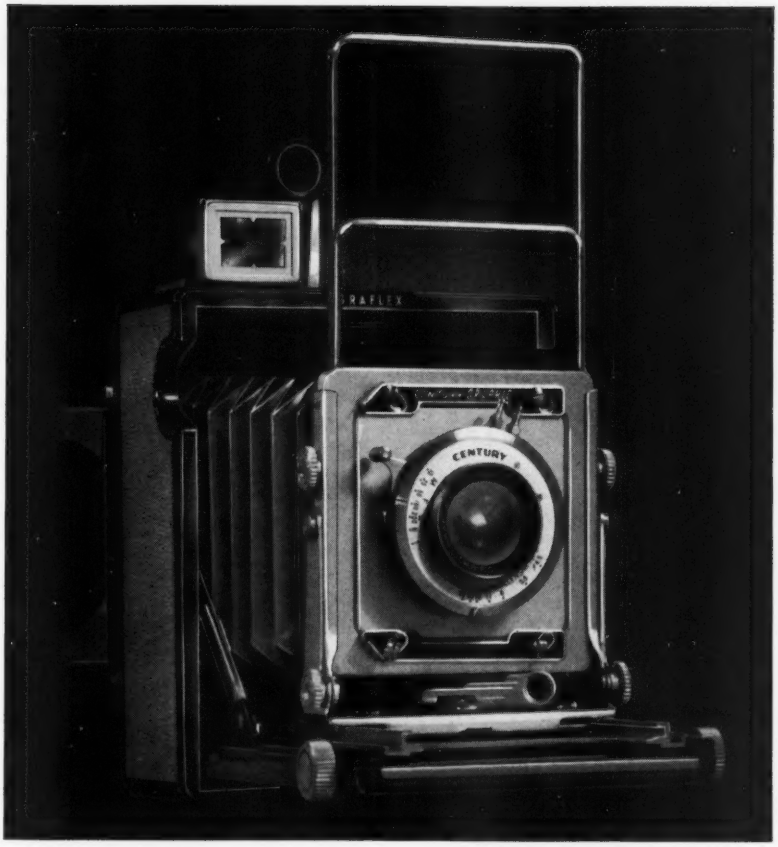
With operations depending almost entirely upon the use of breathing apparatus, details of firemen were required to double check their own and their companion's respirator equipment before resuming the battle. The value of this painstaking checking of equipment, and maintaining strict discipline in obeying commands, was to considerable degree responsible for the relatively small number of casualties, considering the extent and scope of the action. Had men been caught within the building, on the ground floor when the raging fire broke from the cellar, there might well have been many victims. The flames burst through with an explosion which hurled paving stones into the air; the floor collapsed and within minutes the entire area was ablaze. By dawn of the 25th the entire contents of the Poultry Market had been destroyed; the roof had collapsed dramatically, the corner towers had fallen, and only the walls and twisted ironwork and broken masonry were left. But the fire continued below the surface.

Flooding considered

Fairly early in the proceedings, according to one authority, it was considered likely that flooding the cellars might prove to be the best way of dealing with the burrowing fire, but it was soon determined that the tunnels were too well drained and the thousands of gallons of water poured in escaped before it could have any affect on the fire. The flooding plan was abandoned and Chief Officer Delve ordered the fire to be attacked from one point only with the aim of driving it through vents which had been opened up around the store.

In the effort to ventilate and get at the blaze, firemen were ordered to take up paving stones in Smithfield Street to open up new points of access to the fire. Through these openings, down which the firemen descended in the attempt to get

Continued on page 493



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For full information, consult the Graflex dealer listed in the yellow pages of your phone book or write Dept. FE-68, Graflex, Inc., Rochester 3, N. Y. A Subsidiary of General Precision Equipment Corporation.

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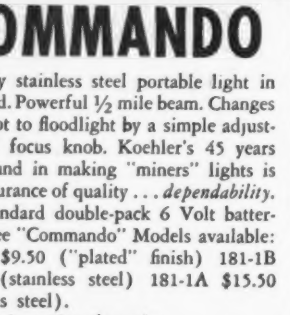
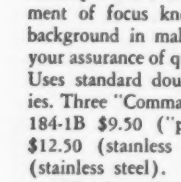


AUXILIARY FLASHERS



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the round table

discussion of current fire department and fire management problems

Fighting Motor Vehicle Fires

THIS IS THE FINAL installment of the Round Table on fighting motor vehicle fires.

Next month's question, which is described in a box elsewhere on this page, is designed to help our readers to a better understanding and use of modern portable radio units.

Readers are invited to submit comments on next month's subject, as well as on the current subject. Address replies to Round Table Editor, FIRE ENGINEERING, 305 East 45th Street, New York 17, N. Y.

The Discussion

Francis J. McDonald, Chief, Fall River, Mass.: It has not been our practice to remove the gas tank cap. However, under certain conditions, I would recommend such action to avoid an explosion.

We do not use portable extinguishers for fuel tank fires, but I would recommend dry powder as the best type.

We carry asbestos blankets in chiefs' cars and rescue wagon. Luckily, we haven't had occasion to use them.

We disconnect batteries of vehicles involved in accidents.

Robert Mills, Chief, Salem, Oregon: In fighting motor vehicle fires, we do not remove the gas tank cap.

We have found the dry powder extinguisher most effective.

We do not carry asbestos blankets.

It is our practice to disconnect the batteries of vehicles involved in accidents.

Paul R. Flynn, Chief, Duluth, Minn.: We do not remove the gas tank cap. Fog lines are used to cool the tanks and extinguish the fire.

For the interior of the tank, we use foam applicators. For the exterior, we use fog lines. Usually we cool it down first with fog, then with a close-up application of foam to the interior of the tanks.

We do not carry asbestos blankets.

We do not remove or disconnect batteries until the vehicle has been removed from the scene of the accident for fear of the spark re-igniting.

J. C. Wilkerson, Chief, Augusta, Ga.: If the gas tank is involved, we treat it as just another fire and use water. If it is not involved, we then concentrate our efforts to prohibit the fire from reaching the gas tank.

We carry only two types of extinguishers, carbon dioxide and dry chemical. We use the carbon dioxide when the wind is not a factor; if it is, we use dry chemical.

We do not carry asbestos blankets, although it is admittedly a good idea.

It is our practice to disconnect the batteries of vehicles involved in accidents.

Dean B. Muhlenstein, Chief, Provo, Utah: We carry asbestos blankets on our apparatus but have had no occasion to use them for the protection of occupants or the prevention of tire fires.

It is our practice to disconnect the batteries of vehicles involved in accidents.

Charles Cremata, Chief, Key West, Fla. — In fighting motor vehicle fires which involve the gasoline tank, it is our practice to remove the cap.

We have found dry chemical extinguishers to be the most effective for controlling fuel tank fires.

We do not carry an asbestos blanket.

It is our practice to disconnect the batteries of vehicles involved in accidents.

Robert A. Meyerhoff, Technical Sergeant, U. S. Marine Corps, Headquarters Aircraft, Fleet Marine Force, Atlantic, U. S. Naval Base, Norfolk, Va.: For the past three months, I have followed with much interest, the discussions on fighting motor vehicle fires. I have been most interested in the question regarding the removal of the gasoline tank cap and feel that I must, as the saying goes, put in my two-cents worth.

Since gasoline changes easily to vapor

NEXT MONTH'S QUESTIONS

How many portable radio units (walkie-talkies, pack sets, etc.) do you carry?

Do these units operate on a fire department frequency or do you share a frequency with another service?

To whom are these units assigned at the scene of an emergency?

On what fire department vehicles are the units carried?

Do you use the units in other than emergency operations? If so, please explain.

when exposed to air, and readily mixes with air, it seems to me that one would be contributing further to the fire by removing the tank cap. In warm air, these vapors increase more rapidly and the same would take place from the heat of a fire. Gasoline and its vapors will not burn or explode unless it is mixed with air. In a confined space, such as a gasoline tank or compartment, the slightest spark can cause this vapor to explode or cause an extremely dangerous fire. A partially filled, or almost empty tank is full of vapor just waiting to let loose its power.

In view of the above, I should think that it would be an elementary fact, and certainly a mandatory practice, not to remove a gasoline tank cap. If there is a gas spill, resulting from an accident, this calls for some fast work with lots of fog and foam. If there is no spill, possibly you could contain the fire with dry chemical or carbon dioxide, but I would certainly have a booster line with fog nozzle handy and ready. Further, if a tanker truck is involved, the only salvation would be a generous application of foam and/or fog.

Since five gallons of gasoline has the explosive force of 415 pounds of dynamite, let's protect the dynamite by all means.

Laurence F. Lynch, Chief, Brockton, Mass.: We do not immediately remove the gas tank cap in fighting motor vehicle fires.

We have found dry powder extinguishers most effective on this type fire.

We have used asbestos blankets in automobile accidents to protect trapped persons, when we are using a cutting torch.

It is our practice to disconnect the batteries of vehicles involved in accidents.

Charles M. Alford, Chief, Brownwood, Tex.: We remove the gas cap if there is no one in the car. If there are occupants inside, we get them out first and then cover the car with fog.

We use 15-pound carbon dioxide extinguishers.

We do not carry asbestos blankets.

It is our procedure to disconnect the batteries of vehicles involved in accidents.

J. L. Evans, Chief, Savannah, Ga.: We do not remove the gas tank cap in fighting motor vehicle fires. The tank is cooled.

We find both carbon dioxide and dry chemical portable extinguishers effective.

It is not our practice to carry asbestos blankets.

We disconnect the batteries of vehicles in accidents.

D. B. Ward, Chief, Muskegon, Mich.: We usually remove the cap in fighting motor vehicle fires. We may get a little more fire at the end of the fill pipe but it stops the chance of an expansion ripping the tank apart.

In fighting small fires, we use a water or carbon dioxide extinguisher. If the tank is involved, we immediately use a

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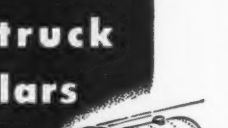

The time has come when rural fire protection should leave the "Fancy Dan" class so that every small community can do a real down-to-earth job of extinguishing fires rapidly, simply and inexpensively.

The nickel plate, red paint, gadgets and polish are good if you can afford them. But all you need for sound, economical fire protection is an Oberdorfer All Bronze Pump hooked up to the transmission of a dependable truck that carries a tank of water loaded with a good wetting agent.

Effective fire control starts just as soon as this outfit can reach its destination and a man can grab the nozzle end of the booster hose and get to the fire. The resulting penetrating stream of over 120 lbs. pressure is the fastest and most important phase of fire fighting.

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Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	20'	150

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FIRE PUMP DIVISION OBERDORFER FOUNDRIES, INC., Syracuse, N.Y.

IT'S NEW!

The biggest improvement in a portable fan in 20 years.

For Ejecting Smoke from Burning Buildings

Check the features of the new Airex Portable Fan.

16" 3 blade propeller
Housing with built-in venturi—an Airex exclusive
Lighter weight of unit
Smoke odor neutralizing attachment (illustrated on fan)

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dry powder extinguisher, which is messy but has a good effect.

We haven't had an opportunity to use asbestos blankets, and they are presently not carried.

We sometimes disconnect batteries if a short has developed. In normal accidents where there is a gasoline spill, we do not disconnect because of the danger of a spark causing ignition, while we are disconnecting the wires from the battery.

Wayne Ulm, Chief, Des Moines, Iowa: We do not immediately remove the gas tank cap in fighting motor vehicle fires.

We have found dry chemical extinguishers most effective for controlling gas tank fires.

We do not carry an asbestos blanket.

It is not our practice to disconnect batteries of vehicles involved in accidents.

John F. Hancock, Chief, Coram, N. Y.: In fighting motor vehicle fires, the gas tank cap is not immediately removed but one fog line is used to keep the contents below the ignition point. After fire is out, a ruptured or empty tank is flushed.

In our department, dry powder and carbon dioxide extinguishers are used to a certain extent.

We do not carry asbestos blankets but do carry asbestos suits. However, the blankets would serve a good purpose.

Batteries of vehicles involved in accidents are disconnected, when safe to do so. □□

New Radio Regulations

The Federal Communications Commission, in an order published May 8, has created the *"Local Government Radio Service"* with regulations governing its functions and operations under sections 10.551 through 10.555 of Part 10, Rules and Regulations. The announcement said the purpose "was to provide a service wherein governmental entities could perform all communications essential to the accomplishment of any official function."

Coincident with the announcement, the Commission ruled that continuation of the use by the fire service of radio channels licensed to police departments will be extended only to October 31, 1963. During this time arrangements must be made for the conduct of fire radio activities in accordance with FCC regulations.

CAA Must Clear Rocket Launchings

Amateur rocket enthusiasts have been cautioned by the Civil Aeronautics Administration to clear their launchings with CAA safety inspectors to make sure the rockets do not create a hazard for conventional aircraft.

Civil Aeronautics Administrator James Pyle said all launchings should be discussed with the inspectors as well as with local fire and police officials.

LONDON FIRE—

Continued from page 489

to grips with the fire, dense, acrid smoke continued to pour, accompanied at times by bursts of flame.

Fire fighters were also handicapped by the chilly weather; on Friday the 25th, there was a sharp frost which froze the uniforms of some personnel and made the footing precarious.

The "stop" message (signifying no additional forces would be needed) went out at 4:45 p.m. January 24. However, the fire fighting continued for another 48 hours and cooling down operations extended over a period of more than two weeks. The blaze was considered under control 87 hours after its start and a single company of firemen remained on duty for two weeks afterward.

The property loss has been variously estimated at between $5 and 6 million.

During the first three days of the fire the London Brigade was plagued with 259 alarms in other parts of the city. These included nine in what may be termed the American "second-alarm" category and two in the "fourth" or "fifth-" alarm classification. One of the latter involved a scrap rubber dump at which 20 pumps were required before it was extinguished. Over 100 firemen were at the scene for almost seven hours.

According to *Fire Protection Review* Smithfield Markets is exempt from the London Building Acts and the London County Council has no direct control over it. For some time agitation for strict jurisdiction has existed although proposals advanced to Parliament as recently as 1957 were blocked in the House of Lords. As a result of the Smithfield disaster further efforts are expected to be made to extend control to such high risk areas as the London markets.

A mild controversy over the efficacy of breathing apparatus employed by the London Brigade has received some publicity following the fire. At an inquest into the deaths of the two firemen, London Coroner J. Milner Helme recorded verdicts of death by misadventure due to inhaling fire fumes. He recommended that a warning device be fitted to breathing apparatus which would sound when the oxygen was running low.

A review of the breathing apparatus and techniques used resulted in a resolution by the Fire Brigades Union which called for setting up adequate controls at any fire in which breathing apparatus is employed. It further called for emergency warning devices for use with breathing apparatus until automatic devices for the purpose are invented. The Union also demanded helmets or headgear which will provide adequate protection to wearers of breathing apparatus.

Conclusions

This incident would appear to emphasize the need for:

1. Regulatory measures giving the fire department greater authority to prevent such hazardous occupancies and where

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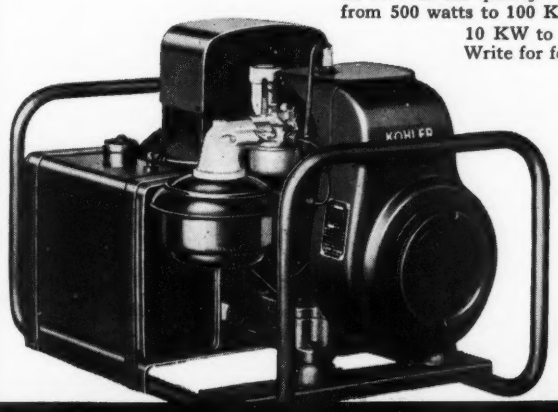
Portable power for rescue trucks, fire fighting and civil defense

Compact, smooth-running, portable Kohler electric plants provide reliable power for floodlights, resuscitators, smoke eradicators, portable iron lungs, power tools. Stand-by models maintain sirens, alarm signals, communications, during power failures.

Civil defense units rely on portable Kohler plants for floodlights, sound amplifiers, power tools, X-ray equipment on mobile hospitals. Stand-by models for panic and evacuation centers. Backed by an 85-vear-old quality reputation. Sizes from 500 watts to 100 KW, gasoline . . . 10 KW to 100 KW, diesel. Write for folder B-46.



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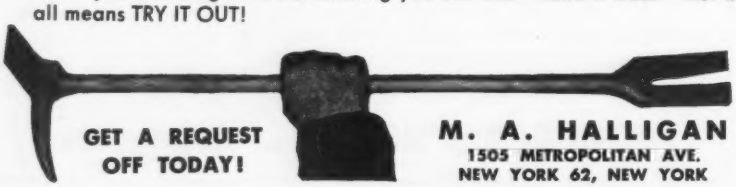
THE HALLIGAN TOOL is a forceable entry tool designed by me after 41 years service—28 as chief officer of New York City F. D. You can be sure of its practical value in fast entry—it's the strongest, toughest tool on the market. I WILL SEND IT TO ANY FIRE OR POLICE DEPT. on trial. See it—Use it—if you don't agree it's something you can use—send it back—but by all means TRY IT OUT!



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they exist, to enforce installation of appropriate fire detection, notification and extinguishing systems.

2. An intimate knowledge by the fire department of such occupancy hazards, building construction, contents, etc., plus a pre-fire plan of action for meeting any potential fire emergency therein.

3. Ample reserves of respiratory protective equipment, including air and oxygen supplies and standard air and oxygen breatching equipment for such sub-surface attack—and constant training of personnel in their use.

4. Necessary reserves of manpower and fire fighting equipment to cope with similar situations and with possible simultaneous emergencies.

5. More reliance on automatic fire detection, fire force notification, and fire extinguishing systems for all such hazardous occupancies.

6. Wherever subterranean operations such as this occur, to establish a 'GHQ' for the over-all fire fighting directions, with appropriate subcontrols, where close supervision could be maintained over the operating forces. In such large scale operations it is imperative that constant checks be kept on individuals as well as company groups to make certain that "all are present and accounted for." □□

April Fire Losses

Estimated fire losses in the United States during April amounted to $99,061,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $99,061,000 loss represents an increase of 15.2 per cent over losses of $85,994,000 reported for April 1957, and a decrease of 3.6 per cent from losses of $102,722,000 for last March (1958).

Losses for the first four months of 1958 now total $405,554,000, an increase of 1.0 per cent over the first four months of 1957, when they amounted to $401,400,000.

These estimated losses include an allowance for uninsured and unreported losses.

Hotel Loses Water Suit

The New Jersey Supreme Court recently ruled against a hotel owner attempting to collect damages from a water company for allegedly failing to provide adequate pressure to control a fire.

In a 4-3 decision, the court agreed with a lower court that the suit of Sydney Grossman for $1,000,000 against the Lakewood Water Co. and its parent companies should be dismissed.

On October 14, 1955, the Lakewood Hotel was destroyed by fire. Mr. Grossman contended the water company was negligent in discontinuing certain pumps and laying off employees, although he said the company had guaranteed good water pressure for fire fighting.

FLASH POINT °F	°C	CLASSIFICATION CODE	IKONOGRAPH
BELOW: 32	0	RED	
ABOVE: 32	0	ORANGE	
ABOVE: 77	25	YELLOW	
ABOVE: 167	75	VIOLET	
OTHER HAZARD BACKGROUND CODE:			
STABLE		WHITE	
HEALTH HAZARD		BLUE	
UNSTABLE		PINK	

Proposed System for the Identification of Hazardous Materials

By J. E. MALCOLM,

Fire Fighting Branch
U. S. Army Engineer Research and Development Laboratories
Fort Belvoir, Virginia

A NUMBER OF FIRE FIGHTERS have lost their lives during fire fighting operations because of the toxic or explosive properties of materials located in the fire area. In many instances, proper precautions could have been taken had the nature of the hazard been known.

Proposed here is a system for hazard identification, which would be applied universally to solids, liquids, and gases. Previously, analagous systems have been proposed for liquid hazard identification, such as discussed in the National Fire Protection *Quarterly*, Vol. 50, No. 1, Page 65 (July 1956), and in current use by the Dow Chemical Company and Union Carbide and Carbon Company.

For simplicity, health hazards and instability and reactivity could be identified, where the material presents a moderate or severe danger, by a suitable mechanism to indicate these two degrees of hazard. In classifying flammability, flash point of liquids and the general relationship of the material density to that of water, and possible reaction with water, are criteria of particular significance in fire fighting operations, and should be identified by suitable mechanisms.

Symbol code

To accomplish this degree of classification and provide for identification of storage containers, or storage areas, the following system is proposed:

For identification, an ikonograph of simple but communicative design could be used in which a flame symbol is superimposed over a rectangular background to indicate flammability. The flash point of liquids could be indicated by the color of the flame, as well as the normal physical state in accordance with the following schedule:

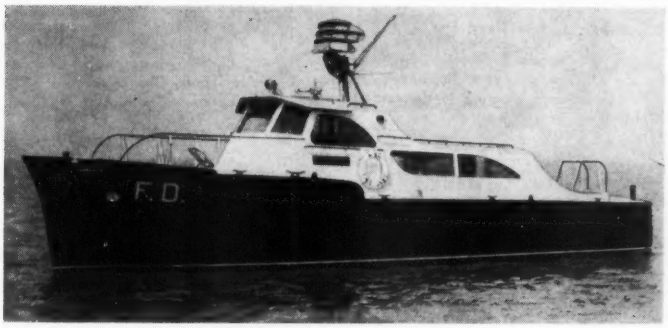
Red—gas or liquid of flash point less than 32° F. or 0° C.
Orange—liquid of flash point 32° F. to 77° F. (0° to 25° C.)
Yellow—liquid of flash point 77° F. to 167° F. (25° C. to 75° C.)
Violet—liquid of flash point above 167° F. (+ 75° C.)
Black—solid

In addition to the flame color, the letters R, O, Y, V, and B, may be superimposed on the flame area in contrasting color so that a means of identification exists for those color blind, or for monochromatic photographs of the area.

In the rectangular background, deep

HARBOR FIRE PROTECTION with CREWBOAT SPEED!!

Built for the New York Fire Department, this Equitable built fireboat tender is one of the proven "Equity" crewboat hulls adapted for specialized duty. The boat is built to ABS approved plans.
The 51′ craft (3′9″ draft) is propelled by 2 diesel engines (300 hp each) and has a speed of 24 mph.
She is capable of pumping 250 g.p.m., has an 80 gal. foam tank, pull motors, resuscitators and facilities for injured persons.



51 Ft. Equity Fireboat Tender

Other Equity Standards include:

TUGS: 45′ — 55′ — 65′ — 85′ — 105′ — BARGES — TENDERS
CREWBOATS: 32′ — 38′ — 51′ — SUPPLY VESSELS

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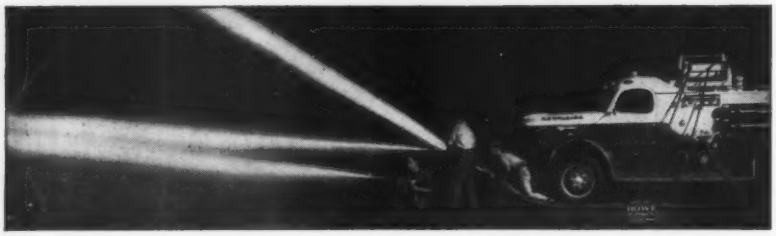

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"Dual Fire Fighter" trucks, originated by Howe Fire Apparatus Co., mount a Myers Giant Bulldozer pump. It delivers 60 gpm. at a pressure of 800 psi. These high-pressure lines are backed up by a high-volume pump to make the right combination for fighting a wide variety of small fires.

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Standard for the Fire Chief's car; swings with authority when breaking and entering is demanded — FAST!

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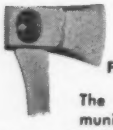
Undercutter . . .

You'll need this for prying windows and doors open quickly; chops like a demon; 36" clear lacquered white hickory handle.



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The No. 1 "best seller" for municipal fire companies, utility companies, forest service and city transportation units.

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"Little Fireman"— the personal fire axe . . .

Wonderful when you're up on a ladder and need a fast acting tool; 1½ lb. "Indian Chief" head; leather sheathe slips on your belt for instant readiness.

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Works fast in removing floors and wall panels; black True American finish, 3¾ lb. head; 36" clear lacquered white hickory handle.

Producers of the axes that blazed America's pioneer trails.

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blue could indicate a moderate toxicological hazard, and pink, reactivity or inherent instability of the material. Where both hazards exist the area may be divided horizontally and the most significant hazard indicated by the top color band. A white rectangle would be used where only light toxicological and unstable characteristic hazards exist. To indicate the material relationship with water, if immiscible with and less dense than water, a black circle could be placed under the above described ikonograph. To indicate miscibility with, or higher density than water the circle is placed over the ikonograph. To designate material which reacts with water in such a manner as to destroy any beneficial effect, the circle is replaced by the symbol of a lightning bolt.

In order to indicate a high degree of reactivity or instability, a bullet head symbol may be affixed to the right of the basic ikonograph. For oxidizing materials, the bullet head is substituted for the flame symbol in the basic ikonograph. For highly toxic materials presenting an extreme hazard, a skull symbol may be placed to the left of the basic ikonograph.

General application of such a system of hazard identification would minimize the chances that death or injury from hazardous materials might occur in the course of fire fighting operations.

This proposal is made primarily for the purpose of assisting in the evaluation of the concept of hazardous material classification and identification. □□

I.A.F.C. President Feted

More than 450 persons paid honor to President Donald S. Charles of the International Association of Fire Chiefs, and chief of the Charlotte, N. C. Fire Department, at a testimonial dinner held in the Charlotte Park Center on May 6.

The event was arranged by the Charlotte Chamber of Commerce, the Merchants Association, the Park and Recreation Commission and the Fire and Casualty Insurance Fraternity. Mr. McAlister Carson, Sr. was chairman and Doug Mayes, WBTV announcer, master of ceremonies.

I.A.F.C. officers present included Chief R. C. Malmquist, Minneapolis, 1st vice president; Chief A. H. Lintelman, Baytown, Tex., 2nd vice president; Chief G. A. Mitchell, Opelika, Ala., treasurer; Chief Wayne C. Swanson, Rockford, Ill., immediate past president; and J. W. Stevens, San Francisco, executive secretary, who addressed the gathering and paid tribute to Chief Charles.

Mayor James S. Smith presented Chief Charles with an engraved silver platter assuring the chief that Charlotte "is proud to have a man of this type to bring honor to Charlotte. We thank you for all you have done."

Governor Hodges, unable to attend, sent an open letter to the chief praising him for his accomplishments. The Governor called Charles "a credit to the state and to the City of Charlotte."

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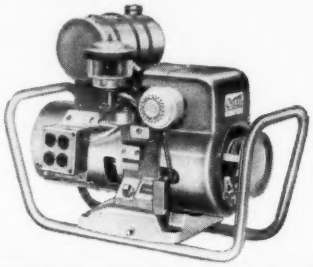
NEWS



Carrying frame model—*Lightweight tubular aluminum frame for one or two-man carrying. Easily lifted in and out of pickup or around on the job site.*

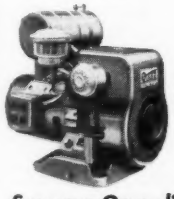
Dolly-mounted model—*One man wheels it anywhere. Specially useful on such jobs as hedge trimming, grass clipping, construction. Big, easy rolling rubber tired wheels.*

New 1500 watt D.C. Onan Electric Plant

Here's more efficient portable power for all 115-volt D.C. and universal motors or tools and equipment. This new Onan power package, Model 115AK-115M, gives you more power per pound of electric plant, more power per gallon of gasoline. Recommended specially for turf maintenance, emergency rescue service, and fire department use.

Direct-connected, compact design

Rugged, single-cylinder, 4-cycle, Onan air-cooled engine starts quickly in any weather. Heavy-duty splash-proof generator is direct-connected to engine, making a rigid, compact, long-life unit. Standard equipment includes manual starter, oil-bath air cleaner and 4 plug-in receptacles. Carrying frame, 2-wheel dolly and recoil starter are optional at low cost.



Standard Model *For installation in maintenance trucks, on fire rigs etc. Converts to portable model with carrying frame or dolly.*

See your Onan distributor or write for information

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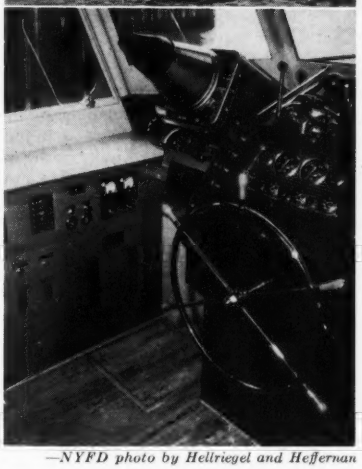


—NYFD photo by Heltriegel and Heffernan

Top: New fire fleet tender has many advanced features. **Lower:** Portion of modern pilot house showing wheel and radarscope

NYFD Boat Tender Placed in Service

The New York Fire Department has placed "Smoke II," a fireboat tender, in service with the Marine Division which is now operating nine fireboats (a new 8000-gpm fireboat the "H. Sylvia A.H.G. Wilkes," was delivered May 13).

The new tender has a speed of 24 knots; a 3-foot, 9-inch draft and mounts a 250-gpm pump. She can carry 20 firemen in her cabin, or a maximum of 40 firemen, to assist the crews of fireboats at fires, bring relief crews to fire fighters on vessels in the harbor or at fires anywhere on the waterfront; and to help protect pleasure craft.

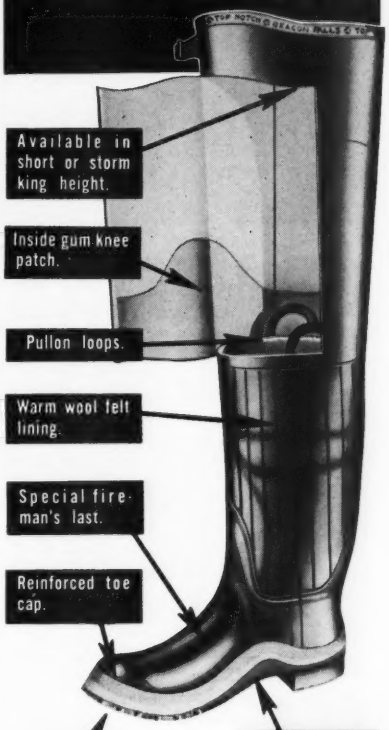
In addition to a full complement of fire fighting tools and masks, the craft is fitted with a mechanical foam system with 80 gallons of foam liquid for extinguishing gasoline and oil fires.. The tender is also radar and radio-equipped.

A regular crew of two men is assigned to "Smoke II" and will remain aboard at her berth at Pier 1, North River. All assigned crewmen have had special training in handling the tender as well as first aid training.

According to Commissioner Edward F. Cavanagh, Jr., the "Smoke II" was purchased for $80,000 including equipment, to replace the original "Smoke" which went out of service in June 1955. It was built by the Equitable Equipment Corp., New Orleans, La.

TOP NOTCH
SIREN
BEACON FALLS CONN.

SIREN
FIREMEN'S BOOTS



Knee height
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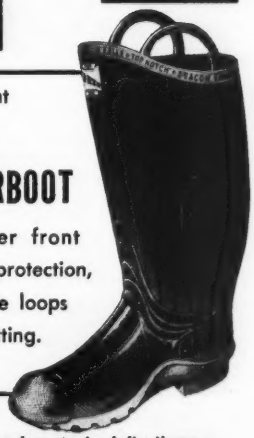
with higher front for added protection, pull-on side loops for easy fitting.



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THE WATCH DESK

overhauling the firemanic news of the day

From the Scissors of Demon Clipper Irving Wallen Johnson

James Pavny, a Los Angeles fortune teller, stood in front of his fire-wrecked home, brooding over his ill-fortune.

"Seven years a fortune teller," he said, "and I had no warning this would happen."

Residents of Columbus, Ohio, living near Engine 12 have complained to the city council that a coal furnace in the station is smoking up the neighborhood. The neighbors want firemen there to convert to "gas or some other non-smoke-producing heating equipment."

Fire Chief Carl L. Hensley of Chubbuck, Idaho, an unincorporated village of 1,100, has no fears of boredom while waiting for fires to occur.

Between alarms he manages to discharge the duties of police chief, water master, Bannock County deputy sheriff, deputy special officer for the Bureau of Indian Affairs and the United States Department of Interior; he is also fire warden for the Forest Service. No mention has been made of his hobbies.

Tot Dials Phone; Saves Mama's Life

Charles Finkenstadt, 2½, of Pueblo, Colo., doesn't know how to dial a telephone correctly but he knew enough to use it in an emergency.

One day last winter his mother collapsed in their home. Charles fumbled desperately with the telephone dial until an operator noticed the eratic signal. She connected him to the fire department.

"Where's your mother?" asked a fireman.

"She's on the floor," Charles replied.

Firemen continued the conversation with the boy long enough to trace the call. Then they hurried to the home and revived the unconscious Mrs. Finkenstadt with oxygen.

Rookie's First Hit—A "Home" Run

Robert Westman reported for duty as a city fireman in Ottawa, Ill., for the first time at 8:00 a.m. one recent day. At 1:30 p.m. that same day his company responded to an alarm for a residence where the dinner roast was on fire.

The fire was at 618 Norris Drive—the home of Westman.

Tom Magner

"One Blow" Fire

Volunteer fire fighters of Ballston Spa, N. Y., extinguished a fire with "one breath" January 19th last, according to press reports.

A resident of the village reported the house of a neighbor, Reginald Thomas, on Hyde Boulevard was afire and the Eagle-Matt Lee and Union Fire Companies answered the general alarm for the location.

Fire Chief William Groom Jr. said that when the volunteers arrived at the scene they found the "fire" was only a candle which had been left burning in a window.

A vamp snuffed this out with one breath.

George Proper

Hot Off the Tape

In Lowden, Iowa, Otto Helscher, 75, was burned severely recently when his wooden leg caught fire while he was burning grass and leaves. He fell into the bonfire while trying to extinguish his burning artificial leg. A group of men nearby, put out the fire and rushed Helscher to a doctor. . . . From Rhodell, W. Va., comes word of the destruction of the Playhouse restaurant and dance hall, with upstairs living quarters, of one Joe Carter. "Oil stove exploded while heating moonshine whiskey." . . . Richard Giesecki, 87, of Brenham, Tex., is dead; he was believed to have been the oldest active vamp in Texas. . . . In Atlanta, Ga., five firemen were injured May 1 when their pumper crashed into an embankment in the southwestern part of the city, while en route to a fire. . . . Write your own caption for this'un: Near Ponca City, Okla., Bob Duroy awoke to see flames leaping from his water pump house a short distance from his home. He raced outside in sub-freezing weather, tore over to the burning structure and doused the flames with three buckets of ice water. Then he remembered. He had dashed out in shorts, undershirt and bare feet. A-a-chew! . . . They claim this thief may be a dirty dog, 'tennyrate, whoever or whatever he is, he stole a broken fire plug which firemen of Long Beach, Calif., left on the curb while they went for a replacement. . . . Windsor, Ont., has got the wind up. On April 25 it had another garage fire—the 25th in 42 days and the 14th in an 18-block area. Fire Chief Oliva Bezaire "suspects arson." . . . In Hooversville, Pa., Julius Peline, Sr., 66, was burned to death on a barbed wire fence April 18 while burning brush. He became entangled in the sharp fence after his clothing caught fire. . . . The 875-man Newark, N. J., Fire Department will go on a 42-hour week by January 1, 1959. Present schedule is 56 hours. . . . An 18-year-old girl was suffocated April 4 in Rockport, Mass., when she returned to her bedroom in a vain attempt to rescue her dog during a fire that swept her home. . . . In Boston, Mass., an alert fire lieutenant grabbed a fire extinguisher, April 3, climbed a spiral staircase to douse a small fire in the ceiling of Holy Cross Cathedral — without interrupting

Holy Thursday mass. The officer, Lieutenant George Lee, was commended by his superiors. . . . Because he was "mad at his mother" a 15-year-old boy started 15 fires in Houston, Tex., causing damage of over $60,000. . . . Wildwood, N. J., has a pyro' who loves to set fires in mail boxes. . . . In Atlanta, Ga., ambulance attendant Carl W. Banks, Jr., 18, answered a call to a hotel to find his father the victim. He had been fatally wounded by a shotgun blast. . . . For seven years the villagers of Westchester, a suburb of Chicago, have suffered a water shortage; then, somebody finally discovered that three main valves in the water system were partly closed. A coupla twists and bingo! end of drought. . . . In Atherton, Calif., fire ended a "treehouse battle." Seems John Templeton, 8, and his brother Kenneth, 9, erected a treehouse in violation of building and zoning ordinances. The city council of the San Francisco suburb ordered it down, but some local politicoes, siding with the children, kinda stalled the demolition. Then along came a fire which Assistant Fire Chief Charles Dompe said "appeared to be of incendiary origin" to accomplish the demolition. A tree-alarm blaze?

Springfield Commissioner— A True 'Visiting' Fireman

Recently Fire Commissioner Thomas W. P. Sampson, Springfield, Mass., visited New York City. During his stay he turned in an alarm for an apartment house fire, helped rescue several persons from the blaze, and wound up in the hospital for treatment of smoke poisoning.

While riding in a cab down Seventh Avenue at 4:00 a.m. on May 11, he spotted smoke and flames pouring out of a Harlem apartment house. Mr. Sampson promptly stopped the cab, ran to a nearby police call box and turned in an alarm.

In company with two policemen, he went through the seven-story building and aroused the occupants of all 21 apartments. On the sixth floor, the commissioner and the policemen persuaded three women to wait for firemen rather than jump out of a window.

Firemen of three engine companies and two ladder companies rescued the women by using ladders, and brought the flames under control. The three women, six policemen and the commissioner were treated for smoke poisoning. □□

Toronto Steps Up Home Fire Inspection Program

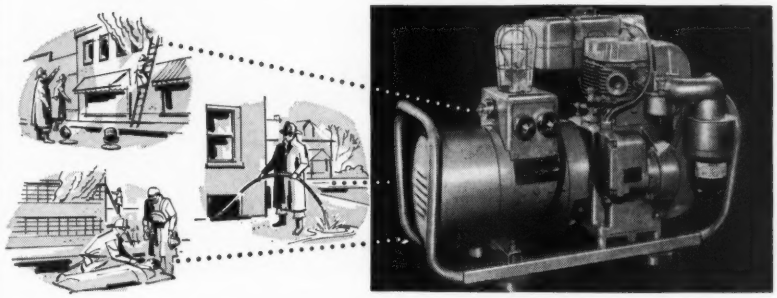
The Toronto, Ont., Fire Department, under the command of Chief L. Leigh, began a full-scale home fire inspection program on May 6.

The in-service radio field inspections are aimed at covering over 25,000 residences in the next six months. Fire department figures show there are over 110,000 private homes and 25,000 duplex and triplex apartments in the city.

—Quarterly Bulletin, Ontario Fire Marshal

Firefighters' Friend ...Portable Power!

Fairbanks-Morse generator is on the spot in all emergencies!



Meet a firefighters' friend, the rugged F-M portable 25P-36 generator. It's a one-man model built to give years of use under the toughest conditions. Carry it... mount it on a pumper, squadrol or truck ...it has power to spare for lights, pumps, radios, and other vital rescue equipment.

These reliable low cost Fairbanks-Morse standby generators are available in five capacities from 600 to 2500 watts. 115 volts, 60-cycle A.C., with manual starting. For complete specifications, write Fairbanks, Morse & Co., 600 South Michigan Avenue, Chicago 5, Illinois.

FAIRBANKS-MORSE
a name worth remembering when you want the BEST

GENERATING SETS • WATER SYSTEMS • MAGNETOS • PUMPS • MOTORS • SCALES • DIESEL LOCOMOTIVES AND ENGINES

- mobility
- one man operation
- light weight
- knock-down design
- rapid assembly

no matter how you look at it....

Ambulitter checks out efficient!

Developed to meet the stringent requirements of the battlefield, the AMBULITTER has many potential uses applicable to a fire fighting team, in addition to moving a litter. Respirators, fire extinguishers, portable pumps, generators, hose, or any piece of fire fighting equipment too heavy or awkward to be transported by a single man can be moved easily by one person on our AMBULITTER. Due to its light, compact structure, little space is required to store the collapsed AMBULITTER on mobile fire apparatus.

The AMBULITTER rolls on two soft, pneumatic bags which enable it to be pushed or pulled over rough, off-road terrain, debris, or rubble. The same soft bags allow easy passage over hose without damage to them or hindrance to the water supply. The AMBULITTER's ease of motion over soft ground should prove valuable in cases of field or forest fires where equipment must be transported manually. Where helicopters are used, the AMBULITTER, with fire fighting equipment attached, could be flown into the needed area. Once on the ground, the AMBULITTER would allow maximum mobility of all dropped equipment.

Production of the AMBULITTER is now on the way, and we will be happy to supply further information upon request.

weight 21 lbs. 5½ ozs.
Price $87.00, F.O.B. Chestertown

Further information may be obtained by contacting

Ambulitter Corporation
Chestertown, Maryland

Oil Filler Plug
Bronze Weather Cap
Prevents ice-locking of operating nut.
Oil Reservoir
Automatic lubrication of all threads and bearing surfaces each time hydrant is operated.
Dry Top Design
Operating threads and bearing surfaces sealed from water.
Breech-Locked Nozzles
Interlocking lugs plus calking prevent blow-out.
Two "O" Ring Seals
Permanent seals without adjustments or binding.
Individual Non-Kinking Chains
Safety Flange and Stem Coupling
Prevents permanent traffic damage and permits facing of nozzles, extensions or barrel changes without digging.
MUELLER®
AWWA Improved Fire Hydrants
DESIGNED FOR ABOVE-GROUND MAINTENANCE!
Bronze Seat Ring
Straight threads permit easy removal from above without digging.
Compression-Type Main Valve
Closes with the water pressure—and stays closed. Permits repair or modification without water shut-off!
Bronze Cap Nut
Double Drain Openings
Automatically force-flushed each time hydrant is opened or closed.

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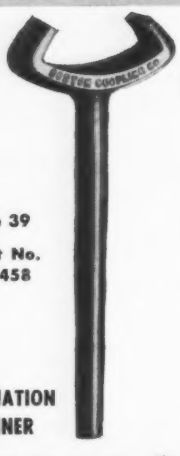
Factories at: Decatur, Chattanooga, Los Angeles
In Canada: Mueller, Limited, Sarnia, Ontario.

See your Mueller Representative or write direct for full details.

For your next equipment order . . .



Style 39

Patent No. 2420458

COMBINATION SPANNER

Carry just one spanner. Fits 1½", 2" and 2½" pin lug, rocker lug, roll pin and slotted couplings. Available in satin finish aluminum or cadmium plated malleable iron.

GET THESE ITEMS INTO YOUR SPECIFICATIONS FOR NEW APPARATUS

BARKER CLICK GATE VALVE

Screw stem type — the clicking feature in this gate eliminates broken stems and bent discs, the major repair items on screw-type gates.

Once this gate is closed, continued turning of the handle does not tighten but merely produces a clicking sound.

Size 2½" single or 6" by 2½" double.

Available in polished brass or chrome plated trim—body painted red—material red brass.

Style 41
Patent No. 1978245

HOSE BRASS GOODS OF EVERY DESCRIPTION

Boston Coupling Co.

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Coming Events

June 22-25—**Oregon State Fire Chiefs Association.** Annual meeting, Klamath Falls, Ore. Secretary-Treasurer, Chief E. L. Smith, Fire Headquarters, Salem, Ore.

June 23-25—**Wisconsin Paid Firemen's Association.** Golden Jubilee Convention, Maukesha, Wis. Secretary, Bob Madden, 1240 Wolff Street, Racine, Wis.

July 23-26—**Washington State Fire Chiefs Association.** Annual meeting, Chehalis, Wash. For information, contact Chief Clark R. Bennett, Fire Headquarters, Chehalis, Wash.

June 23-26—**New England Association of Fire Chiefs.** Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 2-6 Mt. Auburn Street, Watertown, Mass.

June 26-28—**International Fire Buff Associates, Inc.** Annual meeting, Baltimore, Md. Secretary, E. R. Damaschke, 915 West Marshall Avenue, Ferndale 20, Mich.

July 11-12—**Dutchess County Volunteer Firemen's Association.** Annual meeting, Millbrook, N. Y. Secretary, Albert Belle Isle, Box 125, Glenham, N. Y.

July 14-16—**Michigan State Fire Chiefs Association.** Annual meeting, Traverse City, Mich. Secretary, Chief Harry L. Ridout, Fire Headquarters, Muskegon Heights, Mich.

July 17-19—**New York-Penn Firemen's Association.** Annual meeting and parade, Elmira Heights, N. Y. Frank J. Kerbein, Co-Chairman, Fire Headquarters, Elmira Heights, N. Y.

July 18-19—**Hudson-Mohawk Volunteer Firemen's Association.** Annual meeting, Rotterdam, N. Y. Secretary, Harold A. Gass, 3058 Albany Street, Schenectady, N. Y.

Aug. 17-21—**Firemen's Association of the State of New York.** Annual meeting, Syracuse, N. Y. For information contact the offices of the Association at the Hotel Martinique, Broadway and 32nd Street, New York 16, N. Y.

Aug. 19-20—**Canadian Association of Fire Chiefs.** Annual meeting, Hamilton, Ont. Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 11-13—**Westchester County Volunteer Firemen's Association.** Annual meeting, Dobbs Ferry, N. Y. Secretary, Harold E. Ackerman, 60 Concord Avenue, White Plains, N. Y.

September 14—**Great Lakes Association of Fire Chiefs.** Annual meeting held in conjunction with the International Association of Fire Chiefs, Los Angeles, Cal. Secretary-Treasurer, Chief Elmer Stough, 605 - 4th Street, Lorain, Ohio.

September 15—**Pacific Coast Inter-Mountain Association of Fire Chiefs.** Annual meeting held in conjunction with the International Association of Fire Chiefs, Los Angeles, Calif. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco.

September 16-19—**International Association of Fire Chiefs.** Annual meeting, Los Angeles, Calif. Secretary-Manager, B. Richter Townsend, 232 Madison Avenue, New York 16, N. Y.

September 18—**Delaware Fire Chiefs Association.** Semi-annual meeting, Citizens' Hose Company No. 1, Smyrna, Dela. Secretary, Charles H. Jester, Camden, Dela.

Sept. 19-20—**Delaware Volunteer Firemen's Association.** Annual meeting, Smyrna, Dela. Secretary, E. Reynolds Bradley, Smyrna, Dela.

Sept. 24-27—**California State Firemen's Association.** Annual meeting, Santa Barbara, Cal. Secretary, E. L. Albrecht, Sr., 755 - 17th Street, San Bernardino, Cal.

Oct. 17-19—**Nebraska State Volunteer Fire-**

men's Association. Annual meeting, North Platte, Neb. Secretary-Treasurer, Russell D. Salak, Box 312, Schuyler, Neb.

Nov. 13-15—**International Rescue and First Aid Association.** Annual meeting, Jacksonville, Fla. Executive Director, Max L. Spray, 101 North Alfred Street, Alexandria, Va. □□

FIRE COLLEGES

Arizona State Fire School—Oct. 16-18, Phoenix, Ariz. Director, Battalion Chief Jake Siken, Fire Fighting Instruction Supervisor, 49 South First Street, Phoenix, Ariz.

Central Missouri Fire Conference—July 25-27, University of Missouri, Columbia, Mo.

Florida State Fire College—Aug. 4-8—**Seminar in Arson Investigation and Detection.** Sept. 8-12—**Units 101,** Tools, Forcible Entry, Breathing Apparatus; **107,** Arson Detection; **201,** Instructor Training. Sept. 15-19—**Units 102,** Hose and Ladders; **106,** Fire Inspection; **202,** Company Officer Training. Sept. 22-26—**Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204,** Fire Fighting Tactics. Sept. 29-Oct. 3—**Units 104,** Fire Streams; **206,** Fire Prevention and Protection; **208,** Fire Department Administration. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Indiana State Fire School—Sept. 9-12, Purdue University, Lafayette, Ind. For information contact Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

Kansas State Fire School—Oct. 20-23, University of Kansas, Lawrence. Director, Clyde A. Babb, 111 Fraser Hall, University of Kansas, Lawrence, Kans.

Maryland Aerial Ladder Short Course—Aug. 4-6. **Annual Short Course for Firemen**—Sept. 2-5, all at University of Maryland, College Park, Md. For information contact Robert C. Byrus, Director, Fire Service Extension, College of Engineering, University of Maryland, College Park, Md.

Minnesota Regional Volunteer Firemen's School—July 12, Le Center, Minn., Fairgrounds. For information write, Fred A. Pischel, Le Center Fire and Safety Company, Le Center, Minn.

Morris County, N. J., Fire School—July 1, Rockaway Fire Headquarters, Rockaway; August 5, Roxbury Engine Company, Succasunna; September 2, Morristown Municipal Airport, Morristown. For information, write Robert H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.

New Hampshire Firemanship School—Sept. 8-12, Fitzwilliam, N. H. For information, Contact Chief Donald Holbrook, Meadowood Fire Department, Fitzwilliam, N. H.

New Mexico Fire Protection Conference—Oct. 13-15, Socorro, N. M.

Ohio State Fire School—Sept. 8-12, Ohio State University, Columbus. For information, contact Wayne C. Jenkins, Chief of Fire Prevention, State Fire Marshal's Office, Wyandotte Building, Columbus, Ohio.

Ontario Fire College—Aug. 25-29—**Administration Course for Senior Fire Department Officers;** Sept. 22-26—Fire Inspection Practices; Sept. 29-Oct. 10—**Techniques of Instruction for Fire Department Instructors;** Oct. 20-24—**Fire Forum for County Fire Co-ordinators.** All courses to be held at Ontario Fire College, Gravenhurst, Muskoka, Ont. For information, contact W. J. Scott, Ontario Fire Marshal, 210 Huron Street, Toronto, Ont.

Pennsylvania Fire School—Apr. 28-Nov. 1. Six distinct courses within each training cycle;

From one chief to another . . .

CHIEF ELMER KLINE
SYLVANIA, OHIO, SAYS:

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NOW YOU CAN CHARGE YOUR OWN AIR BREATHING EQUIPMENT

Cornelius compressors are easy to operate. They fill air cylinders in minutes and allow every man in the department to be properly trained in the use of air breathing equipment. *Save life, health and property.*

Protect your men and inspire their confidence with an abundance of pure, fresh air supplied by a Cornelius compressor. For free descriptive literature write:

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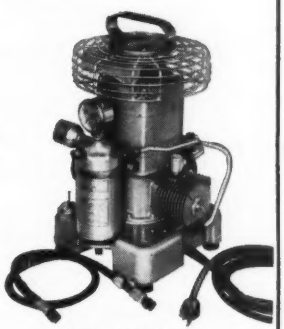

MODEL 130R1500
U. S. Navy model recommended for fire department use. 1¾ CFM — 3000 PSI.

NO. 286

Elkhart Hose Control shown in action with J-200 Mystery Nozzle.

- Will stand alone—on ice, snow, roofs, gravel or concrete—without any whip or back-lash.
- Takes the place of a monitor nozzle.
- Releases manpower for other duties.

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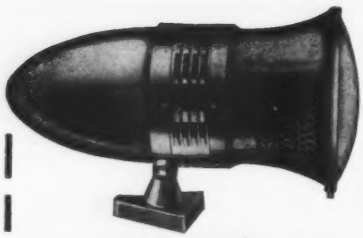

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Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

STERLING SIRENS

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- **RUGGED**
- **RELIABLE**

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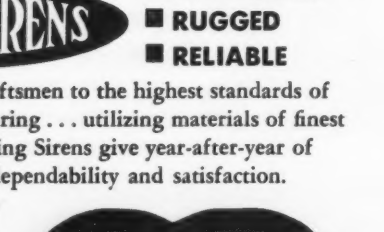
Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.



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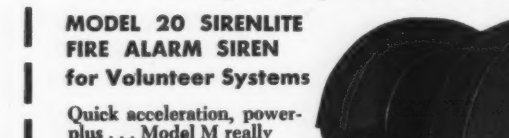

Completely weatherproof GLOBE SUITS can take it . . . give back years of dependable service!

Lightweight, flexible, tough—that's the GLOBE SUIT all over, designed and produced by men who appreciate the fireman's problems. You just can't buy a better suit—at any price. Better see your dealer or write for full details now.

3 SUITS IN ONE!

1 Protective outer shell of tough highest quality duck

2 Waterproof interlining of 100% DuPont Neoprene

3 Your choice of either light or heavy lining for warm or cold climates

The GLOBE suit is available in black, brown, white, red, blue, or olive drab.

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GLOBE SUITS

GLOBE MANUFACTURING CO. PITTSFIELD, N.H.

Annual State Fire School—Aug. 4-8; **D-2 Extension Course**—Aug. 11-15; all at Pennsylvania Fire School. For information, contact Art Espey, Director, Box 631, Lewistown, Pa.

Southern Wisconsin & Northern Illinois Fire School—Sept. 6-7, Savanna, Ill. For information, write Norton T. Ames, Oregon, Wis.

Tennessee State Fire Service School—Aug. 18-23, Middle Tennessee State College Campus, Murfreesboro, Tenn. Director, Homer S. Elkins, 215 Chestnut Street, Chattanooga.

Texas Fire School—July 20-25, Texas A & M College, College Station, Tex. School is sponsored by the Texas Firemen and Fire Marshals Association in conjunction with the Extension Service of Texas A & M College.

Virginia State Fire School—Aug. 25-29, South Boston, Va. Director, Lawrence Oliver, Supervisor, Fire Service Training, P. O. Box 654, Harrisonburg, Va.

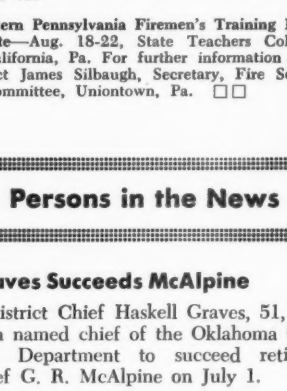
West Virginia State Fire School—July 21-25, West Virginia University, Morgantown, W. Va. Director, R. E. Hanna, Jr., Department of Extension of Industrial Science, School of Mines, West Virginia University, Morgantown, W. Va.

Western Pennsylvania Firemen's Training Institute—Aug. 18-22, State Teachers College, California, Pa. For further information contact James Silbaugh, Secretary, Fire School Committee, Uniontown, Pa. □□

Persons in the News

Graves Succeeds McAlpine

District Chief Haskell Graves, 51, has been named chief of the Oklahoma City Fire Department to succeed retiring Chief G. R. McAlpine on July 1.



Chief Graves, a veteran of 30 years' service, joined the department in 1928. He advanced through the ranks as driver, lieutenant and captain and was appointed district chief in 1950.

Chief John M. Slocum Retires

John M. Slocum, 55, Fire Chief of Huntington Park, Calif. for the past 22 years, retired on April 29. A veteran of 28 years service with the department, Slocum was also chief of Area E Civil Defense and promoted a mutual aid civil defense plan for 10 southeast California cities. He will be succeeded by Ray Walton, a veteran of 26 years with the department. □□

Among the Buffs

By Paul C. Ditzel

GOOD NEWS this month for Buff Bibliophiles and special attention: Tom Jewett wherever you are; two new fire books to add to your libraries.

The first comes by way of The John Day Company Inc., Publishers, and is called, "Famous Fires," by Hugh Clevely. The advance copy arrived at deadline, consequently I haven't yet had time to read all of it.

The book contains accounts of 25 fires which resulted in disastrous loss of life or property. Buffs will be familiar with most of these catastrophes which are obviously not covered in great detail in this 186-page book.

The chief interest it will have for buffs stems from the fact that the book originally was published in England and contains material on several not-so-well-known catastrophes such as the Nouvelles Galeries blaze, the Dromcolliher Theater disaster, and the Glen Theater Fire, Paisley.

Another book that buffs will undoubtedly want to add to their shelves is a 60-page volume, "Underwriter's Salvage Corps, Cincinnati," by Kenneth Dunshee. Friend Roi Woolley has tipped me off to the availability of it and I'll let him step to the podium for a moment and take over:

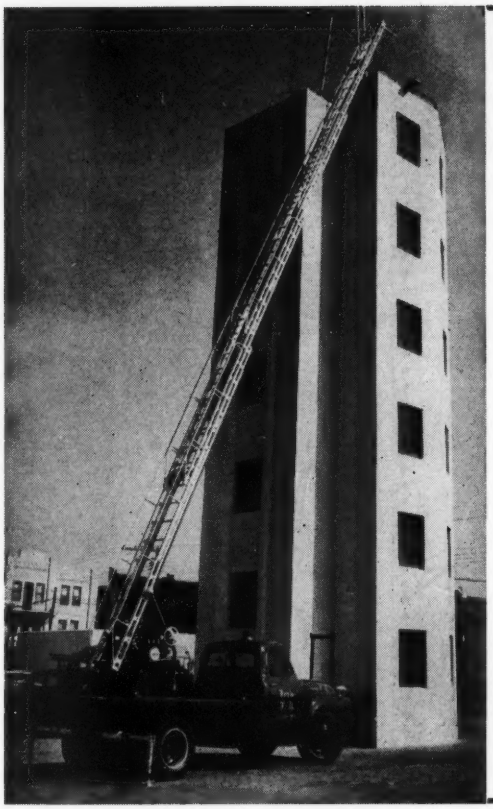
"This beautiful book was intended for private consumption, and never commercialized. Now, I hear tell, " says Roi, "that the Underwriters' Salvage Corps of Cincinnati, which produced it, has a few copies left which I'm informed may be had, first come first served, for 50 cents, plus 14 cents for postage. If you're interested in the history of one of the most outstanding of the fire patrols write to H. Chris Williams, Chief of the Corps, 912 Elm Street, Cincinnati, Ohio."

Sounds like a bargain!

Coincidentally with this information, came a postal card from the Granddaddy of the Fire Bibliophiles, Tom Jewett of the *Kansas City Star*. Tom and his beautiful bride are again cavorting on the continent and his card was sent from Amsterdam. He pens that he'll be in Europe for three months and has appointments to see 15 FIRE BRIGADES!

After all these years of plugging the heroes of the San Francisco Fire Department, Doc Levin, the Paddy Chayevsky of Market Street, steps forward to deliver a personal tribute. A storm recently blew in the main window of Irving's auto supply store on Van Ness and the SFFD stalwarts turned out in the wind and rain with a salvage wagon, tank wagon and a battalion chief to cover the merchandise in the window. "They sure did a wonderful job," says Doc at his loquacious best.

That's it for another go-round. I'm beginning to tell who is and who is not reading this column by the address on mail sent here. My postman and his mother beg that you change your listing for me to: P. O. Box 8731, Crenshaw Station, Los Angeles 8, Calif. □□



MEMCO AERIAL LADDER

This picture shows the McAlpine Drill Tower (Oklahoma City, Oklahoma) which is full six stories in height. Note how this 65 foot MEMCO AERIAL LADDER would make it possible for the men in your Department to fight fires the modern way — from above, *and* the MEMCO AERIAL LADDER will serve equally well in rescue work.

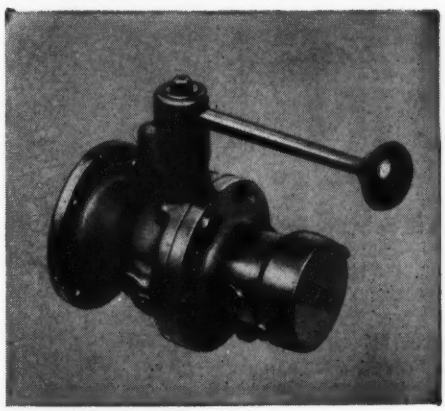
The MEMCO AERIAL LADDER can be mounted on a new truck by your fire truck manufacturer, or on a commercial chassis or on one of your trucks already in service.

Available in 50 and 65 ft. lengths.

Write for full details TODAY.

MEMCO AERIAL LADDER CO.
1007 N. W. 36th Street
Oklahoma City 18, Oklahoma

MODERNIZE!



Your Hale Fire Pumps, regardless of age, can be MODERNIZED immediately — with easily-installed Hale Type BL Discharge Valves. Will fit on all Hale Fire Pumps now in service. (Available in 2½" size only.)

This popular forged brass, ball-type Valve opens and closes easily at *all* pressures. Holds high pressure or vacuum. Can be "gated" and locked into position by a slight turn of handle; will not "creep."

WRITE TODAY for Revised Bulletin #293 on BL Valve and other New Bulletins on Hale Pumps.

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HALE FIRE PUMPS ARE BUILT IN ALL STANDARD CAPACITIES

PLANNING A FUND RAISING CAMPAIGN?

GET HIGH RETURNS with less effort at a nominal cost to you!

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COIN CARDS

The tested and proven way to raise funds. Used successfully by fire departments all over the nation. Holds up to $5.00 in quarters or $3.00 in dimes. Donations can now be given on the popular budget system.

WRITE OR PHONE FOR SAMPLES, DETAILS REGARDING DISTRIBUTION AND PRICES TODAY.

HANDFORD BROWN CO.

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short cuts and gadgets

Williamsburg Breathing Units Are Always Ready for Use

Elliot W. Jayne, fire marshal of Williamsburg, Va., sends in two ideas used by his department for carrying its oxygen breathing equipment.

A M.S.A. Pneophore demand-type oxygen unit is carried on the front seat of the station wagon ambulance where it is readily available for use by the ambulance attendant while in the vehicle. It can be instantly removed and used as a portable unit without a bulky carrying case.

A 40-cubic-inch oxygen cylinder was obtained from the manufacturer and the entire unit mounted on a stainless steel plate. A stainless band secures the cylinder to the plate. The mount is curved in such a manner that it fits securely in the center of the front seat.

A Scott Air-Pak unit is mounted on the front seat of the pumper by means of a flat bar bracket and is ready for instant use by the officer who may slip into the mask harness while responding to an alarm, or by the pump operator as the situation may require.

Chief Jayne and his men believe this method of mounting has helped speed their initial attack as they are ready to go to work immediately upon arrival.

Akron Statistic Display Used for Quick Briefing

Visitors to Akron, O., Fire Headquarters are given a quick briefing of the current activities of the department by means of a statistical board located in the waiting room.

The slotted bulletin board measures approximately three by four feet, and is of the type used by churches, hotels, public buildings, etc., for announcements. Readily removable letters and numerals

permit easy correction and recording of day-to-day changes.

The capsule information contained on the display is educational to the layman visitor and is useful to the many members of the department studying for promotion.

Trough For 1 1/2-inch Hose

The Fall River, Mass., Fire Department has constructed a trough which facilitates loading of 1½-inch pre-connected hose. The idea grew out of a study of the department's method of carrying hose.

Fall River packs conventionally loaded 1½-inch hose above its pre-connected line and in the past it was necessary to remove it from the apparatus before reloading of the lower line could be accomplished.

Now, upon returning from a fire, the empty trough is pulled out of its compartment, placed on the floor and reloaded. The trough is then picked up and pushed back into place without disturbing any equipment. This expedites returning the apparatus to service and saves labor.

L. R. Cote

Radio Saves Time

Department records kept by Chief F. F. Schroeder, Everett, Wash., Fire Department show that the use of mobile radio on apparatus of his department has resulted in 74 hours more "in-service" time than in the previous year.

(*From 1957 Annual Report*)

DRAGON FIRE PUMPS

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Kills pain; it's antiseptic; keeps parts soft and flexible; soothing; causes fast healing. Always ready; quickly applied.

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Obituaries

Fire Marshal G. W. Clough

George W. Clough, 67, fire marshal of Nassau County, N. Y., died May 15 at his Hempstead, L. I., home after a long illness. He had served as county fire marshal since 1939. Between 1926 and 1935 he was a member of the Garden City Volunteer Fire Department and served as chief of department in 1930.

Regarded as one of the nation's leading authorities on fire investigation, he was a founder and past president of the International Association of Arson Investigators and was a director of the organization at the time of his death.

He was a member of the International Association of Fire Chiefs, the Eastern Association of Fire Chiefs, the New York State Association of Fire Chiefs, the NFPA Committee on Flammable Liquids and chairman of the Sectional Committee on Transportation of Flammable Liquids.

Retired Chief Charles Foucek

Charles Foucek, 63, chief of the Naperville, Ill., Fire Department for 25 years prior to his retirement in 1954, died on May 3.

He was a member of the International Association of Fire Chiefs and the Illinois Firemens Association. For several years he served as an instructor at the Illinois Fire College at Champaign.

—Paul Boecker

D. G. Waddell, Maryland's Oldest Fireman

Douglas G. Waddell, 87, oldest active volunteer fireman in Maryland died April 28 in Miners Hospital, Frostburg.

A resident of Lonaconing, he had been a member of the Goodwill Volunteer Fire Company for 65 years and was assistant chief at the time of his death. He had also served as a member of the Lonaconing City Council for 27 years.

—Irving Wallen Johnson, Sr.

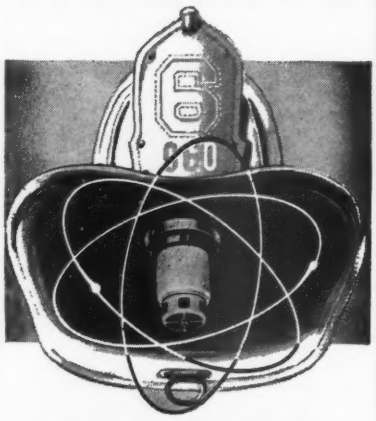
Rocket Safety Rules Issued

The United States Office of Education has issued a set of instructions and safety measures for young students experimenting with rockets or other missiles.

Education Commissioner Lawrence G. Derthick said that young people's interest in rocketry and other sciences definitely should be encouraged. "However," he added, "recent serious accidents involving persons experimenting with rockets emphasize the need for strict precautions."

The government asks the experimenters to keep their missiles away from aircraft. Rockets can be a hazard to planes in flight, it warned.

PYR-A-LARM



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World-Wide Fire News

1,288 Survive Ship Fire

A Norwegian passenger ship, the "Skaubryn" en route from Bremerhaven, Germany to Freemantle, Australia, with nearly 1,300 persons aboard was gutted by an explosion and fire on March 31 while on the high seas in the Indian Ocean.

The ship's captain said an apparent "misunderstanding" between two crew members in the engine room caused oil from an open line to spurt on hot exhaust pipes. The flames at first were confined to the engine room but in a little more than an hour the entire ship was on fire. By that time all passengers were in boats and in the clear.

Smoke and flames became so bad that the two radio operators sending out distress signals had to stand outside their cabin and operate their sets by reaching through a porthole.

The passengers had participated in a life boat drill only a few hours earlier and as a result when the alarm was sounded many thought it was a surprise drill. All persons filed calmly to their stations. Nearby ships rescued them later in the day; one person died of a heart attack.

The ship was taken in tow but, later sank some 300 miles off Sokotra, a small British Island colony off the east coast of Africa.

From the World News Ticker

A fire-fighting team in Tehran, Iran, led by an American, Myron Kinley of Houston, Tex., was attacked by hundreds of poisonous desert snakes at a well, May 7 but fortunately no one was reported made seriously ill as a result of bites. . . . A Chinese Nationalist Air Force plane dropped "200-inch fire extinguishing bombs" on a mountain area in Northern Taiwan, Formosa, April 24 in an attempt to stem one of the worst forest fires in the Island's history. . . . Speaking of "X-curricular activities" the Paris Fire Brigade launched a campaign April 21 to clean the city's 300 or more "weather-beaten statues." First monument to get the scrub treatment was that symbolizing the French Republic in the Place de la Republique. . . . An Australian bush fire turned suddenly on several hundred fire fighters, April 5, killing eight and seriously burning six. According to police at the blaze the victims were burned beyond recognition in a pine forest 300 miles southeast of Adelaide. . . . At least 30 divers and other salvage workers were killed April 17 when the allied ammunition ship "Canada Victory," lying off the Rukyu Islands (after being sunk by the Japanese in World War II) blew up. It is said the explosion came when a diver attached a homemade bomb to the hull to blast a way inside the hulk. . . . Police Captain Kim Choo was fired as chief of the Pyontaek, Korea, district police station after it burned. He was also fire marshal for the district. □□

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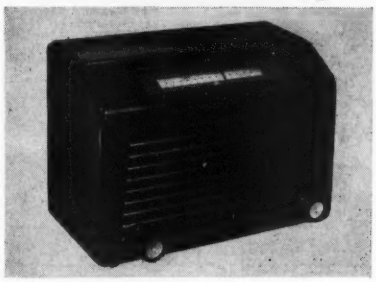

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5 speed transmission 2 speed rear
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Fully equipped except for hose
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1955 Cadillac, Meteor Body, P.S., P.B., W.W. Tires, Two Tone Color, Green and Beige, Green Interior, fully equipped, cot type attendant seats, low mileage, also 1953 Pontiac Barnette Ambulance, fully equipped, newly painted, $1200.00. Photo's available.

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1—1936 Seagrave-600 gallon pumper. Fully equipped except for hose. Including 100 gallon booster tank, 300 feet of booster hose. Must be seen to be appreciated.

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FOR SALE

1948 Mack Fire Engine, Type 85, 750 Gal. Pumper, with 3 KW stationary generator and lights, standard equipment plus many extras. Photograph sent upon request. Above apparatus may be viewed at Riverdale Fire Hall, 4714 Queensbury Road, Riverdale, Maryland. Bids will be closed at midnight September 6, 1958. The Riverdale Fire Department, Inc. reserves the right to refuse any and all bids. Chief C. K. FOGLE.

Ontario Fire College Formal Opening Scheduled

The new Ontario Fire College at Gravenhurst, Muskoka, will officially open on August 22. It is expected a large crowd will be in attendance for the ceremony as the Canadian Fire Chiefs Association Conference, to be held in Hamilton, closes the day before. The college is located on Highway 525, one mile north of the Town of Gravenhurst, and approximately 112 miles north of Toronto.

Technical sessions will start promptly at 9:30 a.m. on August 25 with a three-week "Administration Course for Senior Fire Department Officers." Attendance is limited to 30 students.

Outstanding lecturers will feature the opening course and include Chief Inspector H. M. Smith, Great Britain Fire Service; Chief Donald S. Charles, president, International Association of Fire Chiefs; Harley Procter, manager Fire Branch, Canadian Underwriters Association; J. N. Pryce, chief engineer, Dominion Board of Fire Underwriters; and E. R. Coulter, city manager, Sarnia, Ont.

Succeeding courses will include "Fire Inspection Practices" and "Techniques of Instruction for Fire Department Instructors." The academic year will close with a "Fire Forum for County Fire Coordinators" to be conducted October 20 to 24.

Denmark Hosts Nordic Fire Fighters Conference

The 16th annual Nordic Firemen's Study Conference held a four-day session in Copenhagen on May 6-9. Sponsored by the Municipal Firemen's Association of Greater Copenhagen, the conference program included such topics as fire fighting practices, status and development of apparatus design, relations between fire departments and civil defense, and the treatment of burns. Two periods were given to the subject of fire extinguishment in radioactive material. Field trips included the Civil Defense Center in Hillerød and Copenhagen's Kastrup Airport where fire fight-

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FYREPEL FIRE FIGHTING EQUIPMENT SHOWN FIREMAN AND CITY OFFICIALS

Newark, Ohio, May 1958, Fyrepel Products, Inc., Newark, Ohio, recently demonstrated their fire fighting equipment at a drill conducted by the local fire department. A house marked for wrecking to make way for new expressway was set afire and the latest fire fighting techniques were employed for the benefit of the department and city officials.

Fyrepel Engineers and sales personnel donned aluminized entry and proximity suits to prove claims of their equipment. Firemen, themselves, then took turns using the clothing and were amazed at the comfort and maneuverability—actually entering a room completely engulfed in flames in a simulated rescue operation. Fire Chief, H. C. Hannum and officials were so impressed that several suits were ordered immediately.

Many tests, similar to this have been conducted throughout the U. S. by Fyrepel personnel. Al Larimer, Fyrepel Sales Manager states that these tests result in sales. "What we claim for this equipment is hard to believe. That's why I, myself, put the clothing to the most severe tests imaginable. All doubts are then removed from the firefighters' minds and their enthusiasm for the suits after using them is a sure sales pitch for Fyrepel."

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Manufacturers of Aluminized Glass Cloth Fire Fighting Clothing

ing and rescue equipment was inspected. The conference adjourned after a banquet on Friday evening, May 9.

In addition to firemen and experts from Copenhagen, 104 delegates representing seven foreign countries registered.

The committee on arrangements was headed by Borge Nordhav, chairman, and Leo Kroner, secretary, both members of the Copenhagen Fire Brigade.

The conferences which have been held each year since 1942, rotate among the four Scandinavian countries. Last year's was held in Malmö, Sweden. The 1959 site will be agreed on later.

S. Lancaster

Publications Received

PROPERTY INSURANCE FACT BOOK; a 40-page reference book relating to property insurance for use by those who may write or talk about the subject, published by the National Board of Fire Underwriters, 85 John Street, New York 38, N. Y. Single copies are available on request to the Public Relations Department.

TESTED ACTIVITIES FOR FIRE PREVENTION COMMITTEES. The fourth edition of a booklet containing suggestions for publicizing and promoting fire prevention. All of the ideas in the book are taken from the winning entries in previous U. S. Chamber of Commerce Fire Prevention Contests. The booklet should be invaluable for departments that intend to make an all-out effort for Fire Prevention Week. Published by the Federation of Mutual Fire Insurance Companies; 84 pages.

Dale K. Auck, Director, Fire Protection Division, Accident and Fire Prevention Department, states that copies are available without charge for those who may wish them. They may be had by addressing the association at 20 North Wacker Drive, Chicago 6, Ill.

LADDER PRACTICES (4th Ed.)—Unit 11 in Fire Service Training. One of 10 units of the fire service training manuals and texts issued by Fire Protection Department, Technical Institute, Oklahoma A & M, Stillwater, Oklahoma. Contents covers types and care of ladders; ladder practices; handling ladders; etc. 8½ x 11 punched; 40 pages, price $1.50.

FLAMMABLE LIQUID TRADE NAME INDEX, NFPA Pamphlet 325A. The 1957 revised edition, a guide to safe storage and use of flammable liquids, contains 120 pages of trade name products (3,600 in all) with flash points and principal uses. Published by the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass. Price $1.50. □□

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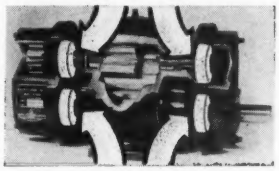

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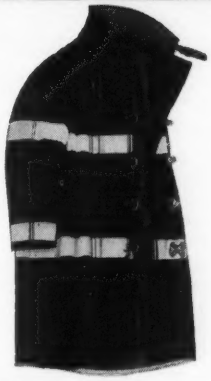

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★ **Design permits vertical stacking**
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JUNE, 1958

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